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Textile Industries

JUNE, 1948

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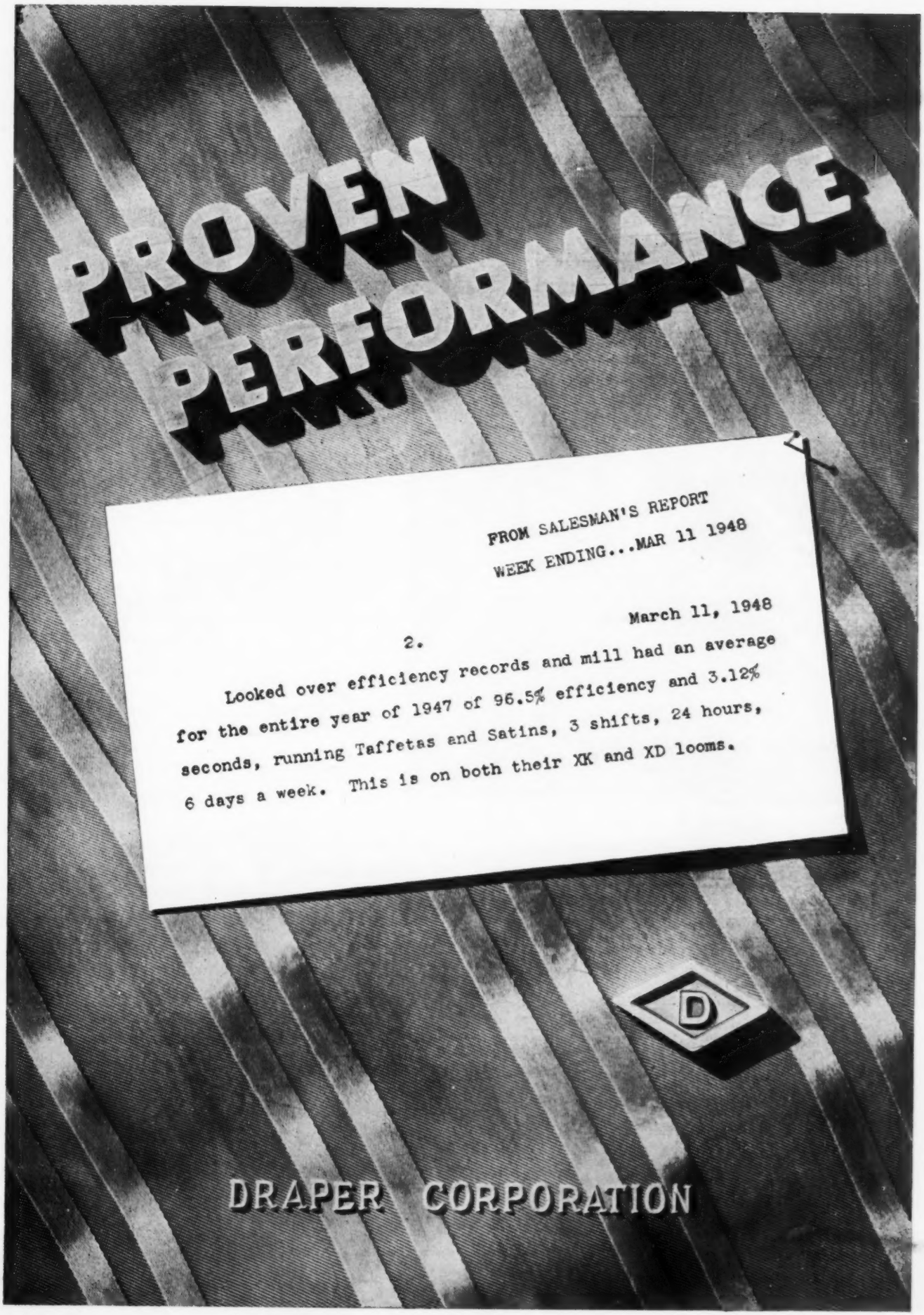
PROVEN PERFORMANCE
FROM SALESMAN'S REPORT
WEEK ENDING...MAR 11 1948
March 11, 1948
2.
Looked over efficiency records and mill had an average for the entire year of 1947 of 96.5% efficiency and 3.12% seconds, running Taffetas and Satins, 3 shifts, 24 hours, 6 days a week. This is on both their XK and XD looms.
D
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Volume 112, Number 6

Textile Industries

June, 1948

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Business Manager

Business Representatives

ARTHUR C. SHAW, 11 Monroe Road, Wellesley Hills, Mass. (Wellesley 3648).

WILLIAM K. HOFFMAN, 26 Bowdoin St., Maplewood, N. J. (South Orange 2-2484).

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LOYD B. CHAPPELL, Auditorium Bldg., 427 West 5th St., Los Angeles, California (Michigan 9849).

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Editor

J. Frank Guest
L. J. Williams
Milton C. May
G. M. Carby

CONSULTING EDITORS
F. Gordon Cobb
Ben H. Crawford

J. A. Moody
Production Manager

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ECONOMIZE with Armstrong's Cork Cots

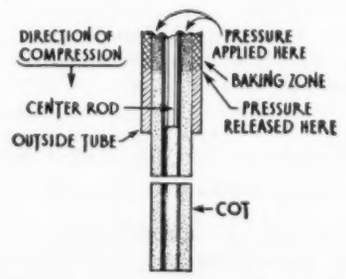
YOU SAVE three important ways when you install Armstrong's Cork Cots on your spinning and roving frames. First, these widely used roll coverings are low in initial cost. Second, they go on fast, reduce assembly time as much as 50%. Third, they have a long service life.

The extra "grip" of Armstrong's Cork Cots gives you more uniform yarn. Their extra friction also carries waste well back onto the clearer boards—so no eyebrowing occurs. Thus there's no danger of waste's being nipped into the yarn.

The extra resilience of Armstrong's Cork Cots provides quick recovery from most laps and hard ends. And because these cots are extruded, they have no hard or soft spots to grip the yarn unevenly. They retain these spinning advantages throughout a long initial service life. In addition, they can be rebuffed for three or four additional full length service lives.

Get all the facts on these economical cork cots from your Armstrong representative. Or write today to Armstrong Cork Company, Textile Products Department, 3606 Arch Street, Lancaster, Pennsylvania.

EXTRUSION PROCESS PRODUCES SEAMLESS CORK COTS



Armstrong's Cork Cots have no structural weakness to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. Each compresses evenly, spins stronger yarn.

Better running work . . . more poundage

ARMSTRONG'S CORK COTS

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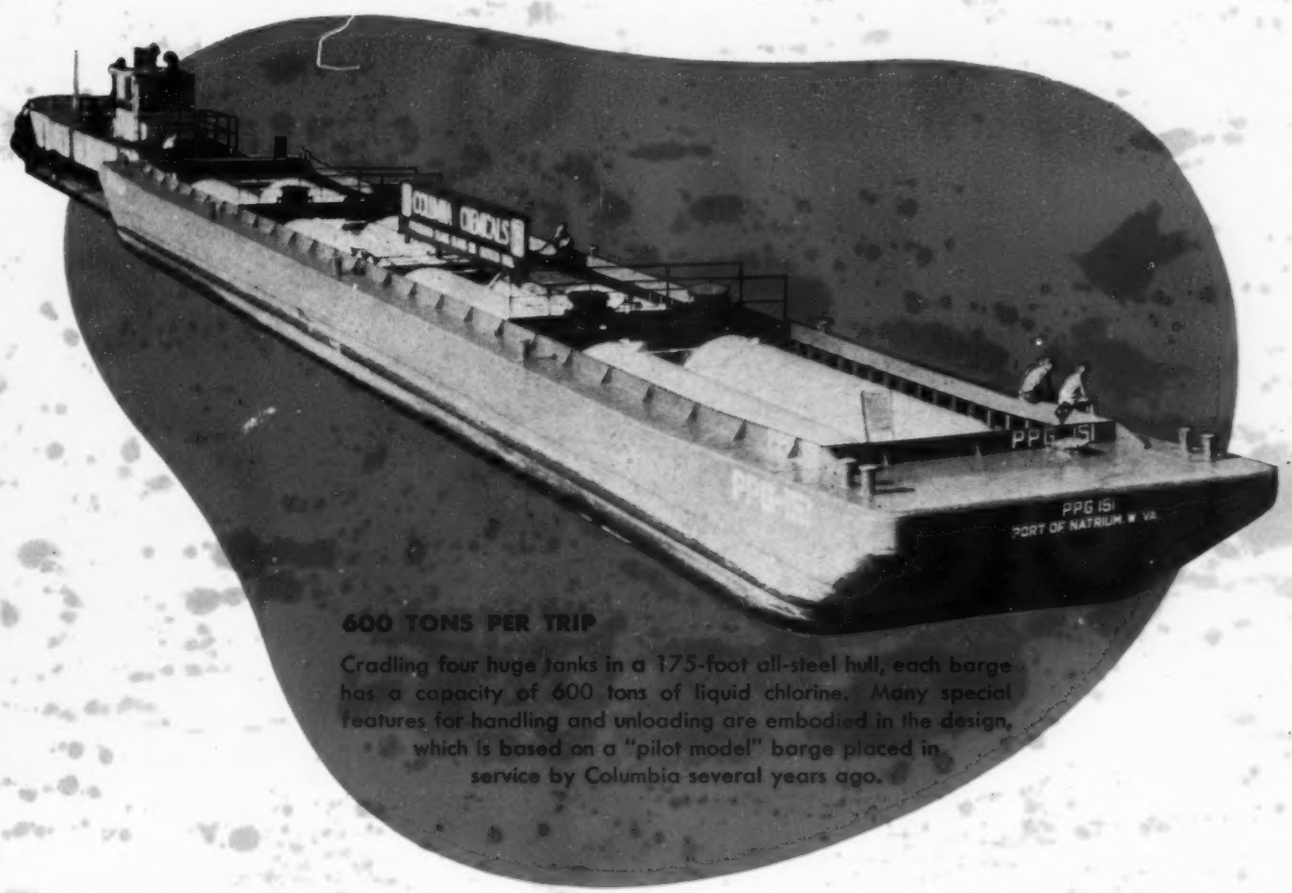

600 TONS PER TRIP

Cradling four huge tanks in a 175-foot all-steel hull, each barge has a capacity of 600 tons of liquid chlorine. Many special features for handling and unloading are embodied in the design, which is based on a "pilot model" barge placed in service by Columbia several years ago.

Fleets of chlorine barges—the first ever designed specifically for this service—have been transporting record quantities of chlorine from Columbia's plant at Natrium, West Virginia . . . and from the plant of its affiliate, Southern Alkali Corporation, at Lake Charles, Louisiana. Operating along the Ohio-Mississippi inland waterways and the inland waterways system of the Gulf Coast, these chlorine barges provide obvious advantages to large-volume users of chlorine in these areas. They are among the most recent examples of the progressive service rendered by Columbia-Southern, the nation's largest merchant producers of chlorine. Pittsburgh Plate Glass Company, Columbia Chemical Division, Fifth Avenue at Bellefield, Pittsburgh 13, Pennsylvania.

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BUY V-BELTS THE SAME WAY

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That's why Goodyear offers the most complete line of V-belts—*a special construction to meet every drive requirement.*

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Whichever of these time-proved constructions fits your drive best, you can get it in a Goodyear V-belt—also built with oil-resistant, heat-resistant or non-static features when desired. The G.T.M.—Goodyear Technical Man—will gladly recommend the best Goodyear V-belt to give you longer trouble-free service at lowest ultimate cost. Write: Goodyear, V-Belt Sales Dept., Akron 16, Ohio.

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A Load-carrying section of endless high-tensile steel cable.
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GOODYEAR

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TEXTILE MACHINERY and

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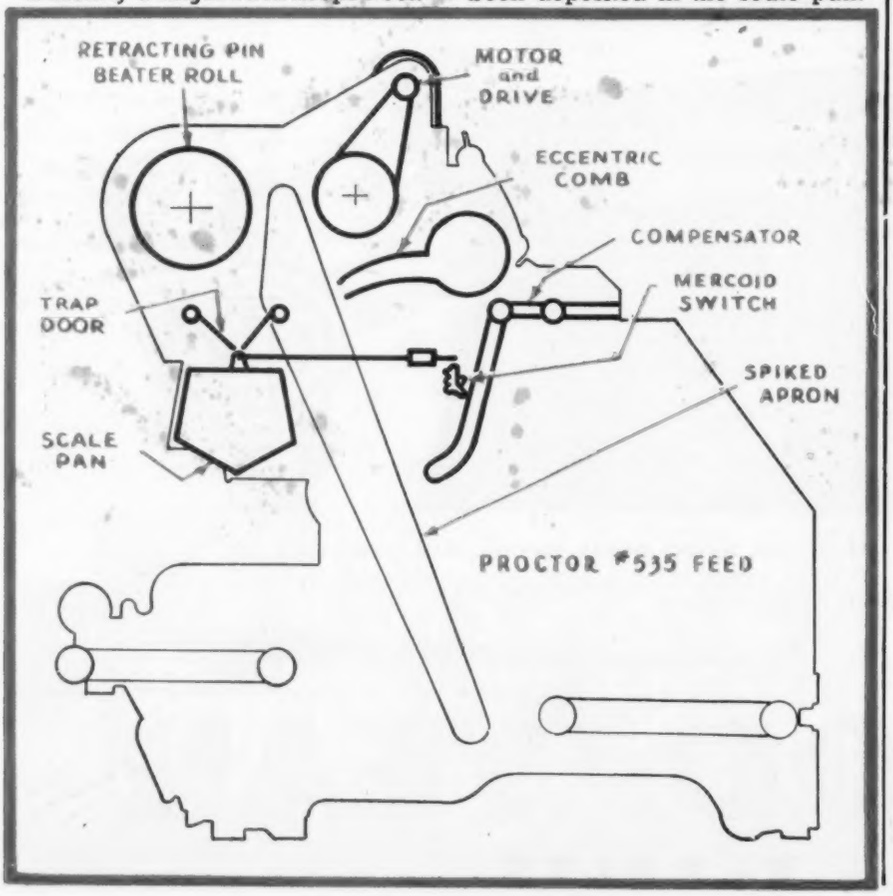
• MAY • 1948 •

Many Features Combine to Assure Accuracy of Proctor Weighing Feeds

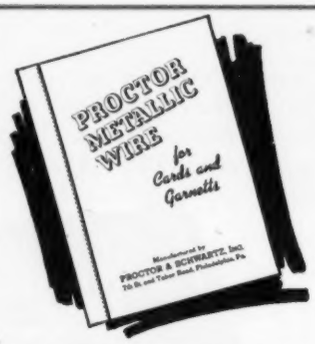
To achieve the maximum efficiency in accurate weighing feeds, it is essential that stock not only be weighed accurately—but that there be an even distribution of stock across the entire width of the feed. The accuracy and efficiency which is possible with Proctor weighing feeds and which is an established fact with textile men, is the result of several features of design.

The pattern of the apron contributes materially to an even distribution of stock across the width of the apron. The compensator which is mainly a finger rack keeps stock adhering to the apron in an even amount and prevents bunching. This is followed by the eccentric comb which serves to even off the amount of stock on the apron as it nears the point where stock will be delivered to the weighing part of the feed. A beater roll, with retracting pins flicks the stock from the apron into the extremely delicately balanced scale pan. Between the scale pan and the beater roll, there is a trap door mechanism, controlled by a mercoid switch and a solenoid, which closes the very second that the predetermined amount of stock has been deposited in the scale pan.



At the instant the trap doors close—the entire mechanism of the feed ceases—preventing any possibility of an undue accumulation of material between the trap doors and the point of discharge from the spiked apron. As soon as the stock has been dropped from the scale pan the entire mechanism begins operation and the cycle starts over.

For complete information on the operation of Proctor weighing feeds and the application of these feeds to your individual stock handling problem write today.



FOLDER ON TYPES OF METALLIC WIRE FOR CARDS AND GARNETTS

A four-page folder depicting the various types of Proctor metallic wire for cards and garnetts is available upon request.

Cards and garnetts equipped with Proctor metallic wire are chalking up excellent production records, which account for the strong trend toward this type of equipment.

This folder provides a ready reference on the type of wire most used. Write for your copy today.

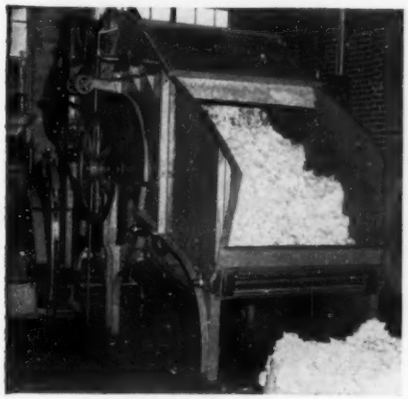
2 SHOPS HANDLE W. COAST RECLOTHING

In addition to the 4 reclothing shops throughout the rest of the country, Proctor & Schwartz have a special arrangement with National Automotive Fibers, Inc. to do reclothing work on the West Coast. Two shops—one in Oakland and one in Los Angeles are prepared to give excellent reclothing service to Proctor customers west of the Rockies. It represents a time and money saving arrangement for this very necessary work.

DRYING EQUIPMENT *News*

Continuous Extracting Unit Performance Cited by Users

Many users of Proctor continuous extracting units for raw stock have found that this equipment, which does not represent a small initial investment, is none-the-less the most efficient method they have ever employed for removal of excess moisture from stock.

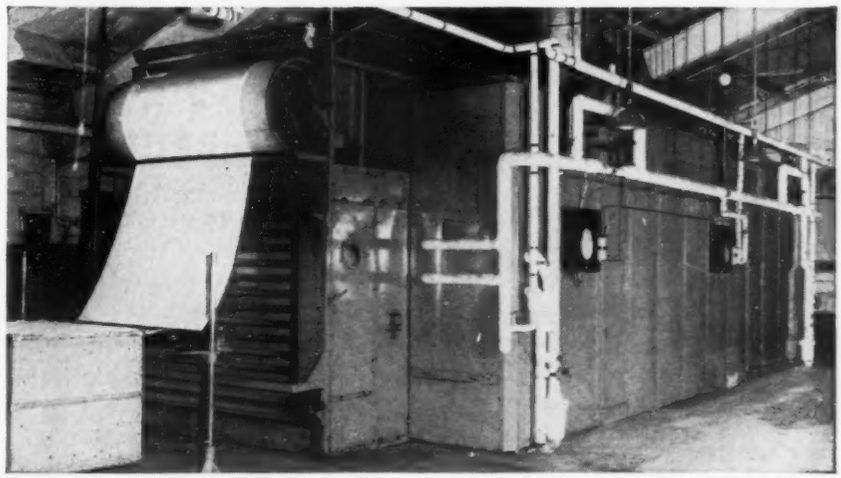


An automatic feed delivers a uniform amount of stock to the squeeze rolls. A vibrating plate, between the feed and the squeeze rolls, feeds a layer of wet stock into the nip of the rolls in such a manner as to prevent droppage of wet stock or bunching of the material as it goes through the rolls.

Users report better opening of matted stock with the result that damp spots in the dried stock are eliminated. Time losses are reduced to virtually nothing. Production is constant and high. Operating costs are kept to a minimum.

Details on this modern extracting system are available, if you write, giving as much information as possible about your requirements.

Refinements in Latest Proctor Loop Dryers Make Possible Improved Performance



The versatile Proctor Loop Dryer now incorporates several refinements in design that make possible a performance that is improved over older types of the same machine.

Girts are now covered with a treated covering that prevents cloth slipping and reduces the danger of "stick marks" in the finished goods. The girts are designed to revolve at given intervals, so that no part of the material is in contact with any part of the girts for any appreciable time.

To aid in forming smooth loops in certain classes of goods, these dryers are equipped with a perfected air looper. A carefully timed jet of air is forced down into the loop as it begins to form, thus assisting in forming better loops even in "difficult" material.

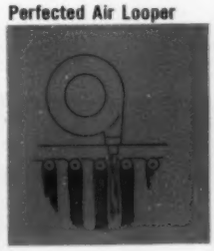
Air circulation may be regulated by means of adjustable shutters. An exterior adjustment permits the operator to determine the exact amount of air circulation taking place inside the machine.

A strengthened, stamped mesh floor makes it possible to move about inside of the machine when necessary. For catching lint the machine is equipped with lint screens.

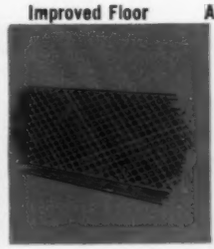
With all of these improvements in design the loop dryer is applicable to a wide variety of goods where finish is applied—but still is not recommended for all types. Individual requirements can alone determine when the dryer meets the finisher's needs. Write for details.

Covered Girts

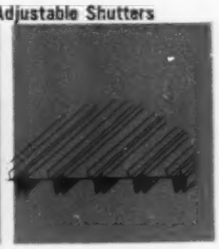
Perfected Air Looper



Improved Floor



Adjustable Shutters



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Have You AN UNUSUAL FLOOR-MAINTENANCE PROBLEM?

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For free floor survey, consultation, or literature, phone or write nearest *Finnell* branch or Finnell System, Inc., 1306 East St., Elkhart, Ind. Canadian Office: Ottawa, Ont.

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FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

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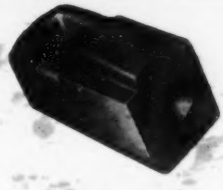
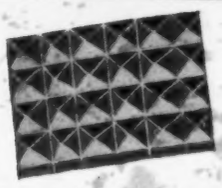
Years of mill-wise experience is reflected in this growing line of rubber loom equipment. Each product has been tried and proven *in use!*



"X" MODEL SUPER PICKER for Draper Looms



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Pyramid Design — enlarged the best gripping surface yet devised — white

TUBULAR SPINDLE BUMPER

TEMPLE ROLLS made in any desired cut or thread

"E" MODEL SUPER PICKER

NAG BUNTER

JACOBS

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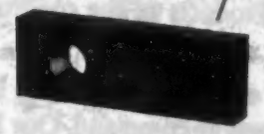
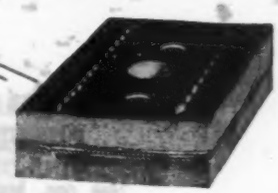
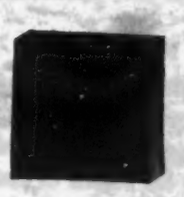




RUBBERIZED FABRIC STRAPPING with leather reinforcements



BUNTERS Made in any size and shape

RUBBERIZED FABRIC STRAPS AND STRAPPING

E. H. JACOBS NORTHERN DIVISION

The Bullard Clark Company

DANIELSON, CONNECTICUT

"Because no two mills have exactly the same problem"

Here are three reports selected at random from Amalgamated customer service files.

Customer A: Needs a product to balance calcium and magnesium salts in water.

Customer B: Wants added weight and softness in knitted rayon piece goods.

Customer C: What can he do about streaky dyeing on cotton-spun rayon dress goods?

And then Amalgamated goes to work! . . . We offer a complete line of textile finishes, dyeing agents, penetrants and softeners, but that's only the beginning of this business. Our real job lies in adapting Amalgamated Products to the conditions in individual mills.

The service of our modern research and production laboratory is yours to command. Our Field Representatives are trained technical men—put *your* problems up to them.

AMALGAMATED PRODUCTS

ALKAMINE DETERGENTS
Not one, but a family of detergents that prevent streaky dyeing, make colors brighter.

FEN WATER REPELLENTS
A group of finishes to protect fabrics from water and surface stains.

DYNESOL PENETRANTS
A class of wetting agents with amazing penetration properties for dyeing and finishing.

VELUBRA WAXES AND SOFTENERS
A complete line of softeners to add weight and softness to fabrics.

ALPHASOLVE GRAINS
A water corrective and softener, technically sodium hexametaphosphate.

FILASEAL HOSIERY FINISHES
A complete line of finishes for rayon, silk and Nylon. Adds snag resistance and smooth appearance to stocking fabrics.

SERAVON SOAPS
An assortment of soaps instantly soluble in water, remarkably effective.

GET THIS BOOK . . . A factual report and buyers' guide about Amalgamated Products. It's the type of book you will keep for permanent reference, because it contains the results of our experience in meeting the demands of the Textile Industry. It's yours for the asking. Write for your copy today.

AMALGAMATED CHEMICAL CORPORATION

Philadelphia 34, Penna. : : Southern Division: Robert A. Bruce, Vice-President and Manager, P. O. Box 35, Greensboro, N. C.

America's First and Finest

COLOR SERVICE

AND AMERICA'S LARGEST-SELLING MAINTENANCE FINISH

BOTH for the price of ONE!

Glidden
Sight Perfection
COLOR SERVICE
IMPROVES VISIBILITY
INCREASES PRODUCTION
PROMOTES SAFETY
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SPRAY-DAY-LITE
AND **BRUSH-DAY-LITE**
MAXIMUM LIGHT REFLECTION
1 COAT DOES JOB OF 2
WASHES LIKE TILE
LASTS LONGER

Glidden
Pacemaker in Paints

Read how this combination makes painting pay extra dividends year after year!

You pay only for the paint—and in Glidden SPRAY-DAY-LITE and BRUSH DAY-LITE you are sure of the very best! Then, with the illustrated prescriptions which the famous Glidden Color Service will prepare especially for your plant at *no extra cost,* you can employ white and colors scientifically to secure many extra dividends from your painting. Since 1930, the Glidden Color Service has been helping plants stimulate production by providing employees with surroundings that contribute to eye ease, promote safety and build morale. Mail coupon today for further convincing facts!

QUALITY Glidden PRODUCTS

THE GLIDDEN COMPANY, Dept. WW-6
11001 Madison Ave., Cleveland 2, Ohio

☐ Please send literature to indicate the practical and thorough nature of the *Sight Perfection* painting program you will design especially for us.

☐ You may have your representative call and demonstrate SPRAY-DAY-LITE or BRUSH-DAY-LITE in our premises without obligation on our part.

NAME .....

COMPANY.....TITLE.....

ADDRESS .....

CITY, ZONE, STATE.....

a great new loom motor

. . . designed by GE for the looms you're now using—and those you're planning to buy!

it's built the way a loom likes it!

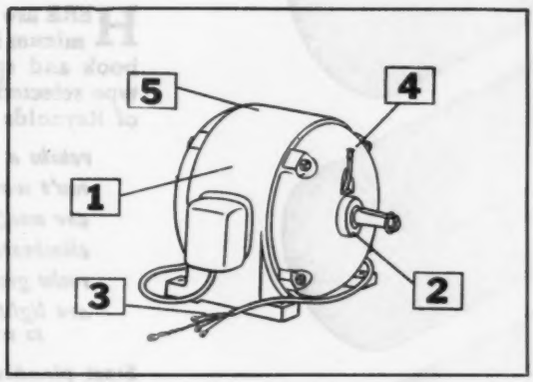
This new G-E loom motor was designed for one application and one only—loom service. After a detailed analysis of the power requirements of looms, G-E engineers developed this new line of motors with each rating "tailored" to meet the specific needs of loom drives. They considered looms operating not only at conventional pickages but at the higher speeds which modern production requires. And they incorporated physical innovations which, along with its efficient performance, make this loom motor a real buy for your money.

G-E textile loom motors are easy to install on existing and new equipment

it's better protected than ever!

In addition to basic Tri-Clad protection against physical damage, electrical breakdown, and operating wear-and-tear, this new loom motor gives you:

1. A rugged, totally enclosed, cast-iron frame which is shorter, takes up less aisle space.
2. Larger diameter, wool packed, steel-backed bronze bearing linings for greater capacity and longer life.
3. Multi-conductor jacketed cable with ground lead (no conduit) to meet insurance recommendations.
4. A pinion-end bearing that's easier to lubricate.
5. All ratings with a single diameter frame to make it easy to change ratings as production demands vary.



GENERAL GE ELECTRIC

TOTALLY ENCLOSED TRI-CLAD LOOM MOTORS

Lint-free and cast-iron!

General Electric Company, Section 8661-31
Apparatus Department, Schenectady 5, N. Y.

Please send without obligation a copy of your Bulletin GEA-5011 which describes the new G-E totally-enclosed 40° C rise loom motor.

Name_____

Address_____

City_____ State_____

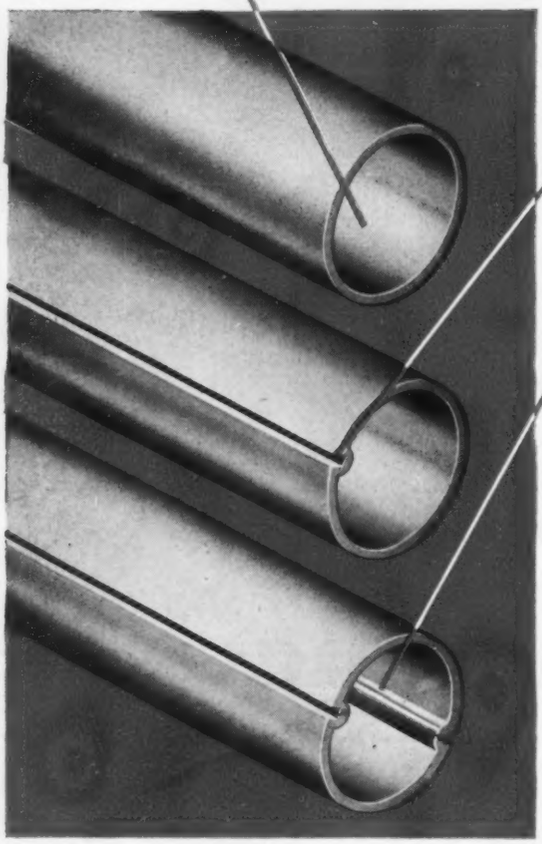
NEW LIFE for Loom Beams

3 Types of Reynolds High-Strength, Heat-Treated Extruded Aluminum Barrels Available for Rebuilding Your Loom Beams

1 Barrels of plain round extruded aluminum tubing. Most economical where starting slot is not needed.

2 One-piece extruded aluminum barrel with grooved starting slot. Ask for Reynolds Standard Extruded Section T-414.

3 Aluminum barrel composed of two dovetailed extruded sections. Can be furnished completely assembled if desired, or you can assemble the halves yourself if you prefer. Because of simplified fabrication, this strong and sturdy barrel is more economical than the one-piece section, Type 2. Ask for Reynolds Standard Extruded Section T-620.



HERE are long-lived, lightweight barrels of Reynolds Aluminum in a choice of three designs to fit both your pocketbook and specific production needs. And regardless of the type selected, you are assured of these basic benefits: Barrels of Reynolds Aluminum . . .

retain a smooth finish throughout their long life—
can't warp or splinter—
are unaffected by moisture—
eliminate warp stains due to rust or corrosion—
resist grooving or crushing from pressures of synthetic yarns—
are lightweight for easy handling, yet possess ample strength to withstand rough treatment and frequent stacking.

Start planning your loom beam rebuilding program now. If you are not equipped to rebuild your loom beams, Reynolds will be glad to recommend competent shops for such rebuilding. A few Reynolds Aluminum barrels put to the test will prove their many advantages over wood or steel conclusively. Write us for further information and recommendations as to the type of barrel best suited to your needs. Reynolds Metals Company, Aluminum Division, Louisville 1, Kentucky.

Address all inquiries to Industrial Machinery Division, Reynolds Metals Company, 310 Hanna Building, Cleveland 15, Ohio.

IF YOU SEE RUST YOU KNOW IT'S NOT ALUMINUM

REYNOLDS Lifetime ALUMINUM

REYNOLDS PIONEERING MADE ALUMINUM COMPETITIVE . . . TAKE ADVANTAGE OF IT!

SANDOZ PRESENTS *The color achievement of the month*

Color Music BY MAGEE

Harmony in wool . . . is how the Magee Carpet Company describes its product. In styling, colors and textures, Magee offers opportunities to build any choice of room decoration around the rug.

Because Magee promises "colors that blend with any scheme", the company insists upon the highest grade of dyestuffs — a fact which gives significance to their selection of Sandoz.

Among Sandoz colors that meet the highest standards for processing and service are

ALIZARINE LIGHT BLUE 4GL or 5GL and XYLENE LIGHT YELLOW 2G

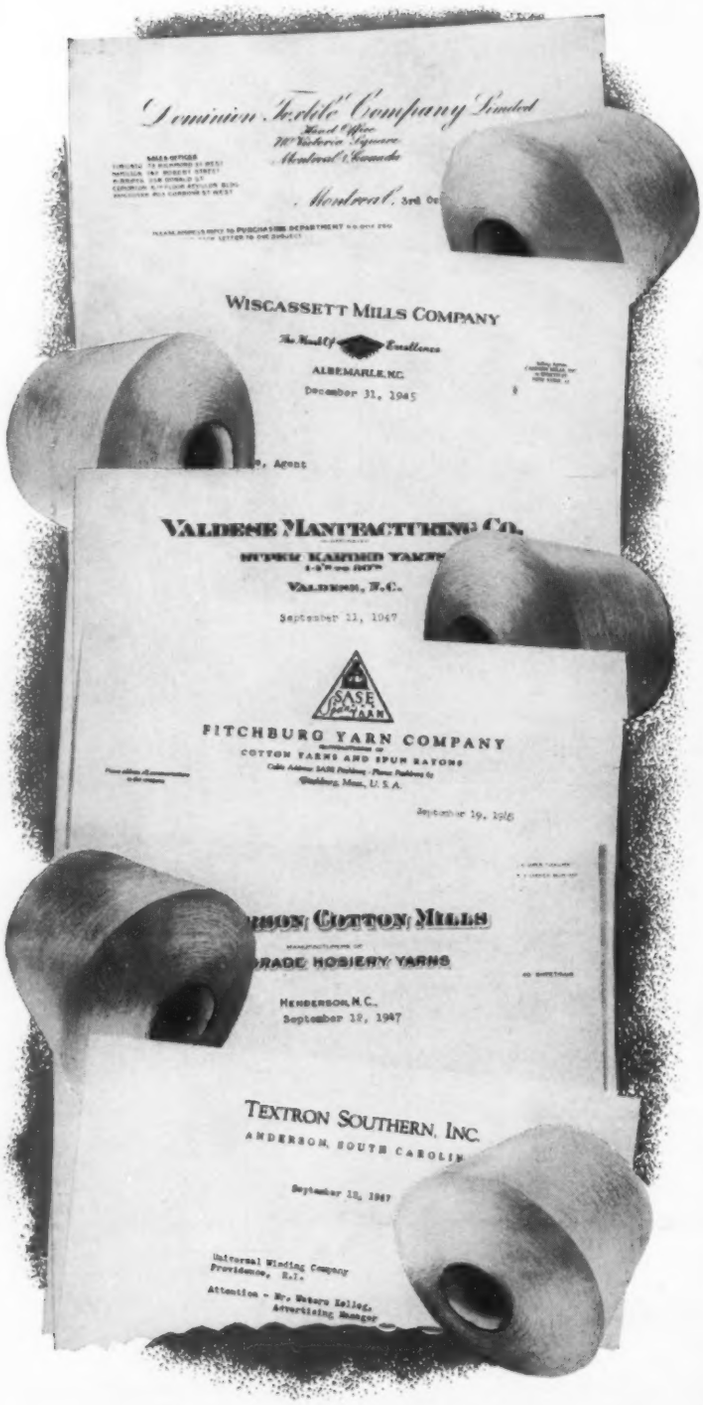
the best combination for level dyeing and fastness to light in green shades.

Due to their reliability, the dyer can control his colors to match exact specifications . . . and due to their fastness to light and service, the customer can be sure of long-lasting beauty.

For acid, chrome or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.
Application laboratories and stocks at Boston, Philadelphia, Charlotte, Los Angeles, Toronto. • Other branches at Providence, Paterson, Chicago.

SANDOZ *thinks ahead with textiles*



THE "WHO'S WHO" IN COTTON SPINNING KNOW "WHAT'S WHAT" IN CONE WINDING

Your cue to the latest practice in cone winding is the fact that more mills are replacing old equipment with Roto-Coners* than with any other make.

Mills like those represented here — always in the forefront of technical progress — are fast standardizing on the modern winding machine with the exclusive Rotary Traverse.

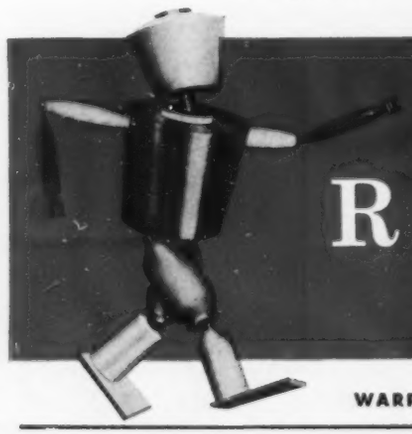
They are winding at higher speeds (up to 550 ypm), paying less for maintenance (under ½ of 1% on investment per year), improving working conditions (machine is quiet, clean, easy to operate), producing better quality cones (uniform, free from roll-cuts and underwinds, accurately inspected).

On both counts — cost and quality — the Roto-Coner* has become the No. 1 machine for open-wind knitting cones.

UNIVERSAL WINDING COMPANY

Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England, Paris, France; Basle, Switzerland.

Agents in every principal textile center in the world.



LEESONA REG. U.S. PAT. OFF.

ROTO-CONER*

Open-Wind Cones for Knitting

WARPING CONES — DYEING PACKAGES — PARALLEL TUBES FOR TWISTING

In a large yarn mill in central North Carolina, a test, run on 264 spindles equipped with *Dayco* Roll Coverings and 272 spindles equipped with a competitive make, the competitive roll coverings caused almost twice as many ends down, per thousand spindle hours, as did the *Daycos*.

As in many other tests, conducted under actual mill operating conditions, *Daycos* outperformed the competitive roll coverings by a wide margin . . . in this test . . . with 47.6% less ends down. To insure a fair test, both makes of roll coverings were run under identical circumstances of frame condition, temperature and relative humidity, and with the same kind of yarn.

Daycos outperform all other roll coverings in test after test, because they are built with exactly the right amount of cushion and the correct coefficient of friction to assure perfect drafting properties. Too, *Daycos* are not affected by temperature or humidity, which means their superior physical properties will remain constant throughout their long service life. In fact, the characteristics of *Dayco* Roll Covering are such that *Dayco's* surface drafting properties improve with use.

You can prove these things to yourself by trying *Daycos* on your frames. For complete information, write *Textile Products Division, The Dayton Rubber Company, Woodside Building, Greenville, S. C.*

Write today for your free copy of Dayco's new Cot Grinder bulletin, No. A-550.

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

You Can Increase

⬅ BETWEEN POWER LINE

CONTROL

DISTRIBUTION TRANSFORMER

This Important Link Can Affect

THROUGHOUT YOUR MILL, every step in production depends in some degree on the performance of this vital equipment between power line and machine. By reducing unproductive down time — by providing correct operating speeds — by assuring efficient distribution and control of electric power — you can, in effect, increase the production of every machine in the mill. Isn't this worth a careful check? Call in an Allis-Chalmers expert to make an analysis and recommendations. This service will in no way obligate you.

TEXROPE V-BELT DRIVES PROVIDE FAST, ACCURATE SPEED CHANGING

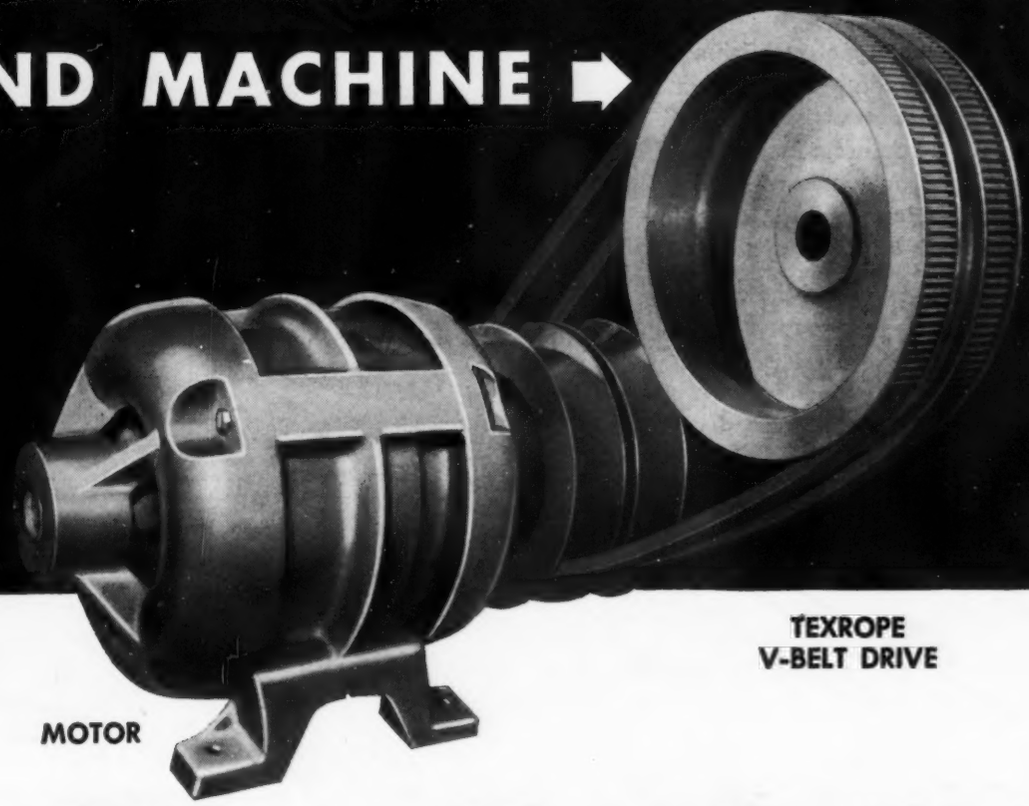
With *Texrope Vari-Pitch* sheaves you can regulate speed to the finest degree — and make the change in a matter of seconds with motion control equipment . . . in 5 to 8 minutes with stationary control sheaves. You gain in production efficiency — you save man and machine time. Allis-Chalmers originated the *Texrope* multiple V-Belt drive for the textile industry — offers the most complete range of equipment and the finest V-Belt engineering talent available.

USE ALLIS-CHALMERS MOTORS DESIGNED FOR TEXTILE SERVICE

Allis-Chalmers builds a wide line of motors for textile mills — motors designed to operate for long periods with a minimum of maintenance and service. New, improved Allis-Chalmers Quick-Clean motors, loom motors, and standard squirrel-cage motors are now in production. When you need motors, contact your nearest Allis-Chalmers office or dealer.

Mill Output Here..

AND MACHINE ➡



...the Efficiency of Every Machine!

DELIVER UNIFORM POWER TO ALL MACHINES WITH MINIMUM LINE DROP

Use of Allis-Chalmers Dry-Type Distribution transformers at load centers throughout the mill will assure uniform power to all machines — operate all motors at full rated power and speed. They're quickly and easily installed. To complete the "power line to machine" link, Allis-Chalmers motor control provides positive, safe starting and stopping of each individual motor.

A 2391

Texrope and Vari-Pitch are Allis-Chalmers Trademarks

Call For Complete Service — Power Line to Machine

Your nearby Allis-Chalmers District Office or Authorized Dealer is ready to serve you. Whatever your equipment problem may be, it will get prompt attention. Don't hesitate to call on them or write ALLIS-CHALMERS, MILWAUKEE 1, WISCONSIN.

ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry

Easier . . . Faster . . . Smoother Piping Jobs when CRANE-equipped throughout

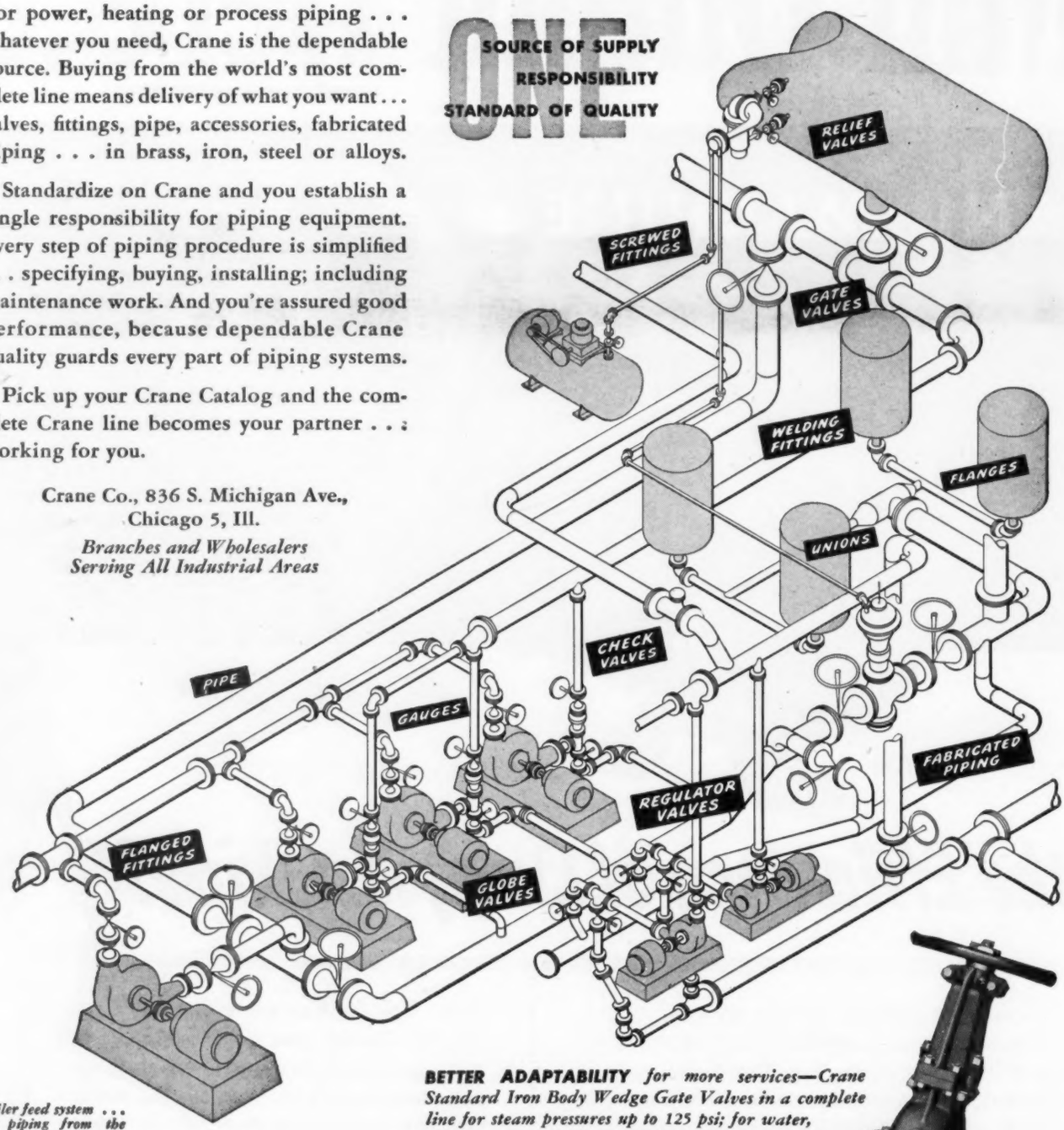
For power, heating or process piping . . . whatever you need, Crane is the dependable source. Buying from the world's most complete line means delivery of what you want . . . valves, fittings, pipe, accessories, fabricated piping . . . in brass, iron, steel or alloys.

Standardize on Crane and you establish a single responsibility for piping equipment. Every step of piping procedure is simplified . . . specifying, buying, installing; including maintenance work. And you're assured good performance, because dependable Crane quality guards every part of piping systems.

Pick up your Crane Catalog and the complete Crane line becomes your partner . . . working for you.

Crane Co., 836 S. Michigan Ave.,
Chicago 5, Ill.

Branches and Wholesalers
Serving All Industrial Areas



Boiler feed system . . . all piping from the complete Crane line.

BETTER ADAPTABILITY *for more services—Crane Standard Iron Body Wedge Gate Valves in a complete line for steam pressures up to 125 psi; for water, oil or gas up to 200 psi. Made in outside screw and yoke, and non-rising stem patterns; screwed or flanged ends; brass-trimmed or all-iron. In sizes 2 in. and larger. See your Crane Catalog, pp 101-6.*

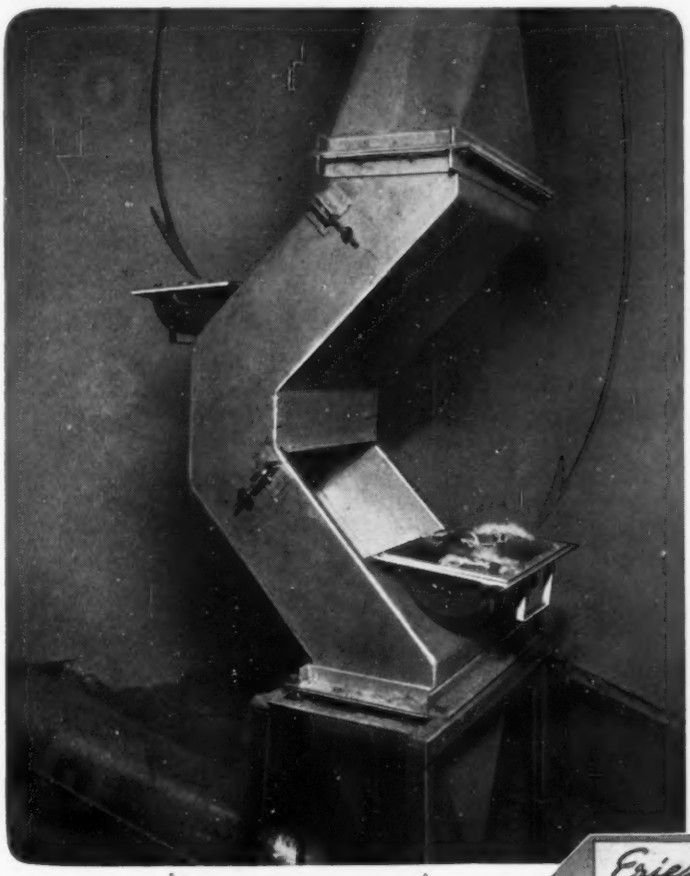
EVERYTHING FROM . . .

VALVES • FITTINGS
PIPE • PLUMBING
AND HEATING

CRANE

FOR EVERY PIPING SYSTEM

Nature conspires with powerful ERIEZ magnets to stop tramp iron *In textile processing lines*



POWERFUL Non-Electric Permanent Magnets, plus design characteristics of the Eriez Magnetic Hump quickly adapt it for installation in pneumatic lines—and provide positive protection from tramp iron. Designed so physical laws assist in the magnetic cleaning of materials, the Hump takes advantage of the difference in inertia between tramp iron and the fibers being cleaned. Iron, because of weight, tends to travel in a straight line more directly than do lighter textile fibers, thus striking or coming closer to the face of the magnets. Also, the Hump causes fibers to change direction, creating a tumbling or mixing action. This breaks up the flow of material and greatly increases the effectiveness of the magnets. Eriez Magnetic Humps require no current or electrical accessories . . . First cost is last cost . . . And Eriez Humps are approved by Associated Factory Mutual Fire Insurance Companies . . . Consult us . . . We will be glad to make recommendations on your magnetic separation problems.

Adaptors of any length to fit various diameter pipelines optional
2nd Eriez Magnet gives double protection against Tramp Iron
Eriez
MAGNETIC HUMP
UNCLEAN MATERIAL
MATERIAL CLEANED OF TRAMP IRON EXITS HERE
Tramp Iron removed by 1st Eriez Magnet

Above is a photograph of an Eriez Hump installed in the air line between a picker and feeder. Other effective installations place the Hump between the bale breaker and the vertical opener, or between the feed table and the first piece of high speed opening equipment. Such Eriez installations prevent fires and machinery damage traceable to tramp iron.

Please send bulletin No. 104A and the following: TI-6

Data on Eriez Magnets for:

☐ Wool ☐ Cotton ☐ Worsted ☐ Other processing lines

Eriez data on: ☐ Gravity Conveyor ☐ Mechanical Conveyor

☐ Pneumatic Conveyor ☐ Equipment on Processing Machines

Name.....

Address..... City..... State.....

For Complete Textile Magnetic Protection . . . See Eriez First

ERIEZ MANUFACTURING COMPANY

1501 East 12th Street, Erie, Penna.

OLATE COMPLETES THIS FULLING "TRIPLE PLAY" WITH PRECISION

Fast wetting out . . . excellent lubrication . . . thorough emulsification of oil and dirt . . . this triple-play fulling job is one which Olate handles with exceptional efficiency.

1 Wets Out Thoroughly and Quickly

Olate's extremely low titer assures fluid solutions which penetrate fibers quickly and evenly . . . eliminate dry spots . . . guard against uneven fulling and non-uniform felting.

2 Lubricates and Softens

Fluid Olate solutions soften the fabric quickly, too. No uneven lubrication to cause uneven shrinkage and poor coverage when Olate is on the job.

3 Emulsifies Oil and Dirt

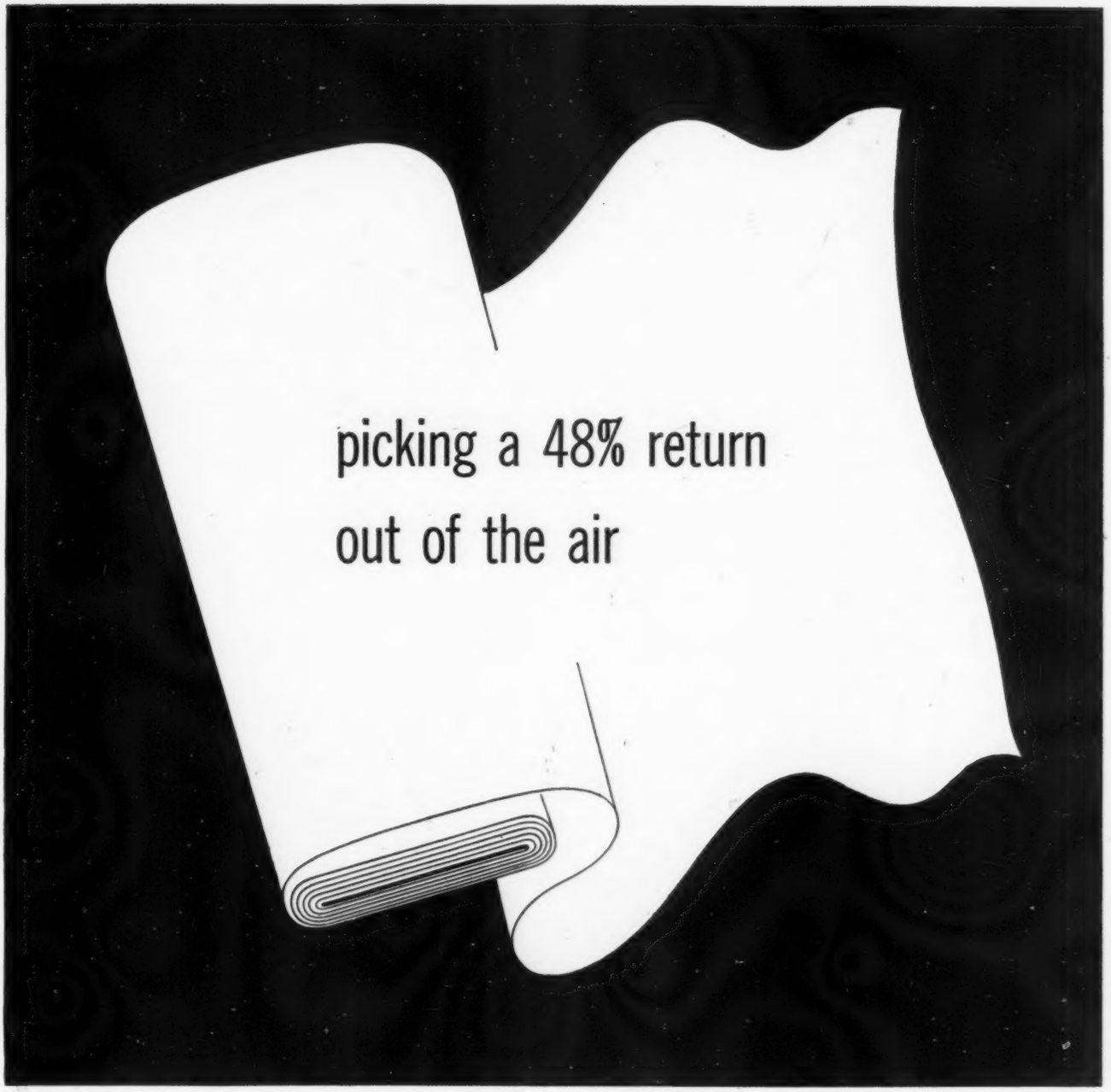
Dirt and oil are loosened quickly and emulsified thoroughly when Olate goes to work. Dirt is held in suspension until it is ready to be flushed away during the scouring operation.

Olate can save you time, steam, and manpower in your fulling and scouring operations. Olate-processed woolens *look* better . . . *feel* better. Prove it with a month's trial.

Olate

Procter & Gamble

safe and efficient for every textile soap usage



A Southern cotton mill does it regularly since the weave room was air conditioned by Carrier.

As a result of Carrier-controlled humidity and temperature, each loom now averages 688 yards more cloth per year. The net profit on that *extra* production at current market prices equals 48 per cent per annum on the total investment for air conditioning.

These figures are conservative. They don't take into account such benefits of air conditioning as fewer seconds, better choice of labor, lower employee turnover and less absenteeism.

To achieve goals like this, air conditioning has to be engineered soundly. That's why so many of the country's leading textile mills choose Carrier to design and install systems for weave rooms, spinning and carding rooms, dyehouses or complete mills.

Remember, with Carrier air conditioning you get the *added* value of pioneering research and world-wide experience. These things are important when your goal is greater production, higher quality and lower cost. Carrier Corporation, Syracuse, New York.

Carrier AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING

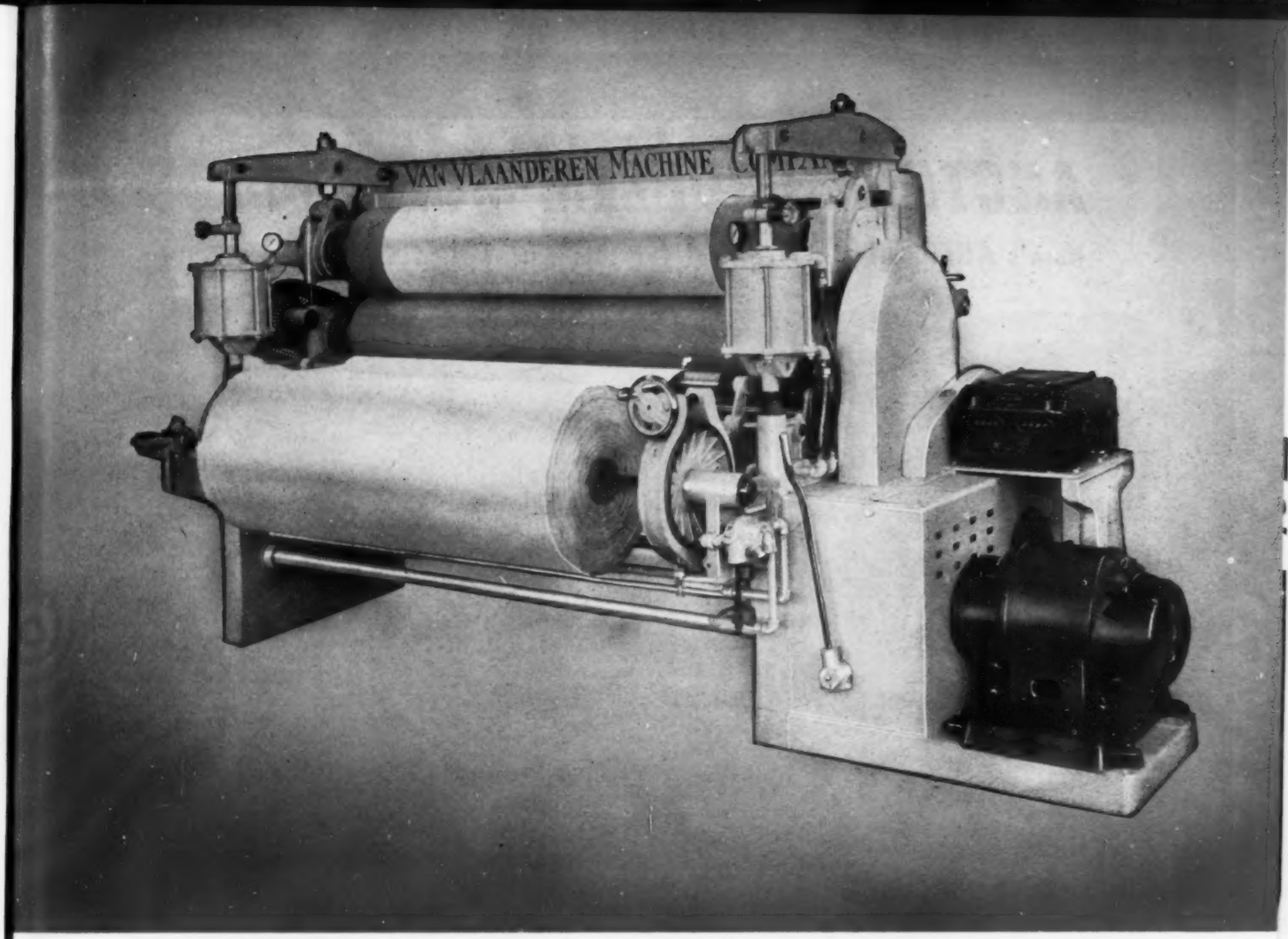
TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK



SUPERIOR PENETRATION

For applying a wide variety of solutions such as resinous finishes; dyes; fire, moth, crease, mildew and waterproofing.

Superior penetration *is* secured with this machine because of its patented design—the fabric being processed not only absorbs the solution while in the pan but is further treated with additional solution when passing between the immersion roll and center roll, which are spaced to give a restricted aperture. This desirable extra treatment is accomplished by driving the immersion roll independently and variably in the opposite direction to the movement of the fabric. This tends to force liquor into the fibres, giving better penetration. The goods finally pass through the center and top rolls for final penetration under pressure and removal of surplus liquor.

Ask us to send full information.

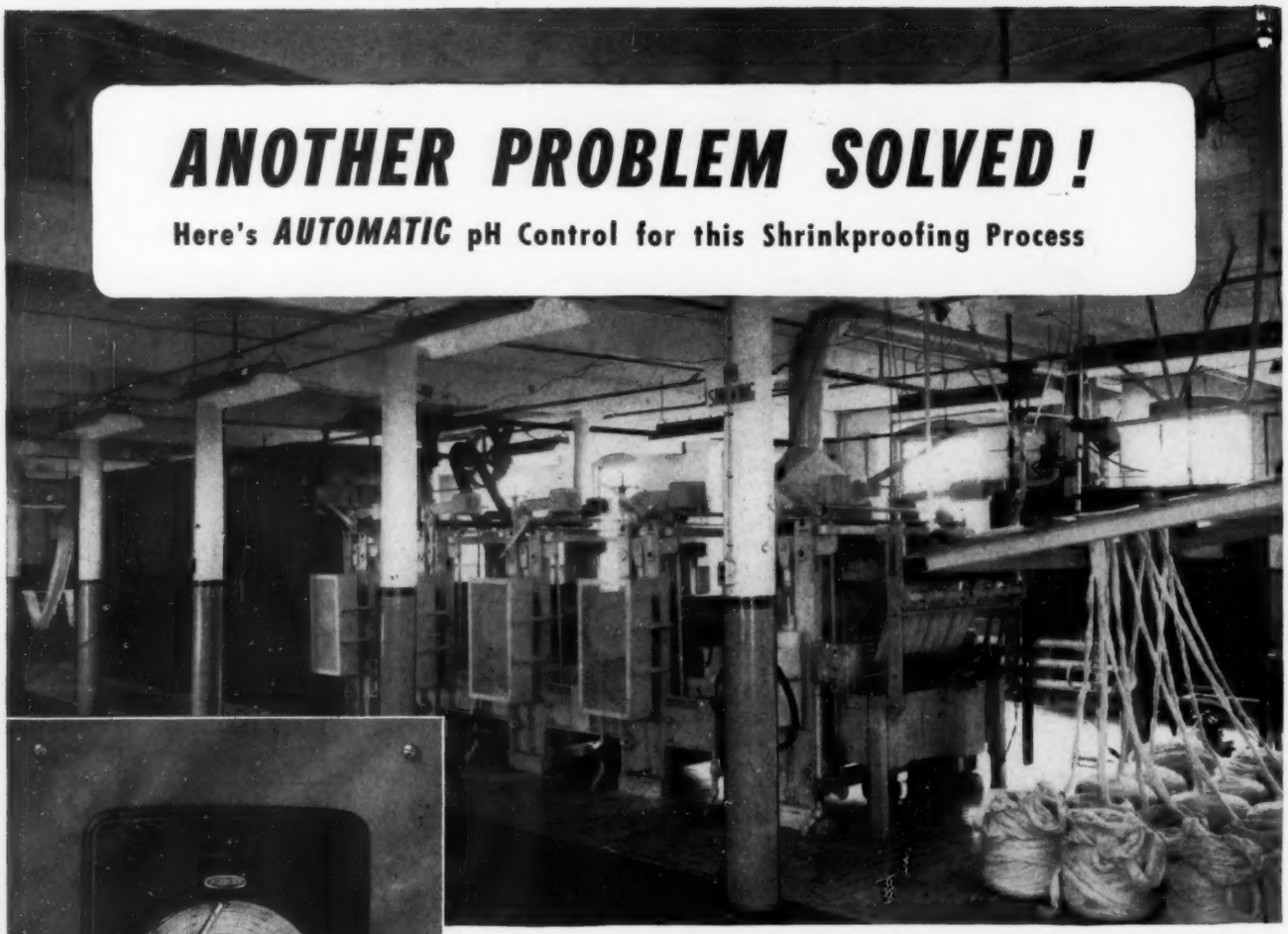
VAN VLAANDEREN MACHINE COMPANY

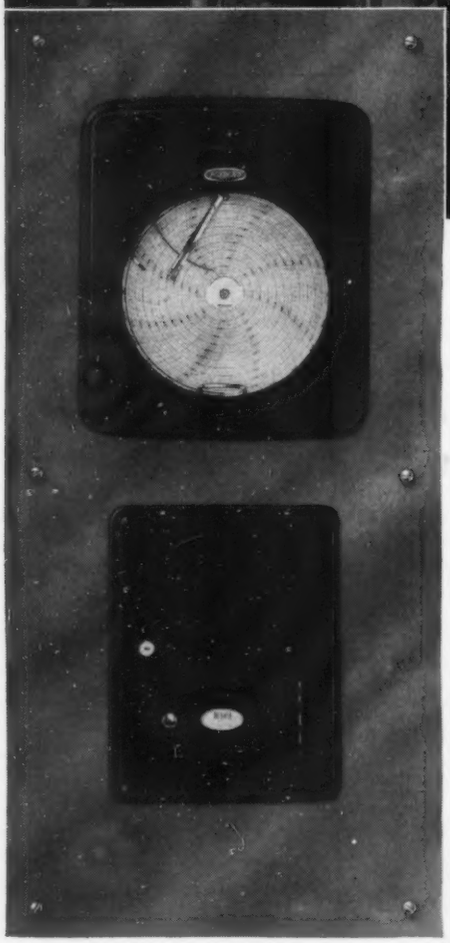
370 Straight Street • Paterson 3, New Jersey

World's largest manufacturer of machines for processing modern fabrics

ANOTHER PROBLEM SOLVED!

Here's *AUTOMATIC* pH Control for this Shrinkproofing Process





This illustration shows the Harriset Process for Shrinkproofing, using C. G. Sargent's Sons Co. equipment at the Ames Worsted Company, Lowell, Mass.

No Bath Sampling • No Shut Downs • No Spoilage

This new, skillfully-engineered application of pH control has proved to be the very heart of successful wool shrinkproofing. It keeps the saturating bath in perfect balance *automatically*, so that every fibre is treated with the same strength of chemicals. Operators find that this precise control of pH in the continuous shrinkproofing of worsted top yields better quality, increased production, and elimination of spoilage.

In this system, control of pH is achieved through the Foxboro Dynalog Electronic Controller—the instrument that's known everywhere for its unequalled combination of accuracy, sensitivity, and speed of response. Other controls employed to assure top performance throughout the process include Foxboro temperature and level control for the saturating bath . . . pneumatic loading of the squeeze rolls . . . air-temperature control on the following dryer.

For information on Foxboro pH instrumentation, write **The Foxboro Company, 18 Neponset Ave., Foxboro, Mass., U. S. A.**

FOXBORO
REG. U. S. PAT. OFF.

RECORDING · CONTROLLING · INDICATING
INSTRUMENTS

better STARCH through research

Auxiliary Room to Product Development Laboratory at A. E. Staley Manufacturing Company. Here new Textile Starches are processed, in miniature equipment, for use in laboratory tests.

•

After a new Textile Starch has been created in the Product Development Laboratory or Research Laboratory, it is processed in larger amounts in the Auxiliary Room and thoroughly tested in the Textile Laboratories. The perfected formula for this Starch is sent to the plant where it is then made up in larger amounts for actual mill tests.

Staley Laboratories work constantly to develop new products and improve present products to be of greater service to our customers. Strict Control Laboratory supervision, throughout every step of processing, guarantees uniform quality and consistent, dependable performance of each and every shipment.

Staley's prompt service and complete cooperation is available to you. Write, wire or phone for detailed information.

STALEY STARCHES

Staley's CORN AND SOY BEAN PRODUCTS

ATLANTA • SPARTANBURG
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CHICAGO • NEW YORK
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A. E. STALEY MFG. COMPANY

DECATUR, ILLINOI

Bearings that deliver plus-performance to WHITIN TWISTERS

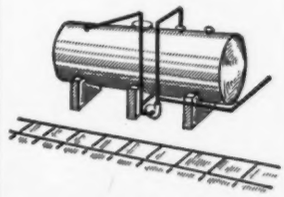
History has a way of repeating itself. Whitin engineers considered the *past* performance of SKF Bearings when they considered the *future* performance of their High Speed Large Package Twisters. For SKF Bearings have assured smooth, clean performance; accommodated shaft deflections, and kept down maintenance costs on Whitin products for many years. On the basis of past plus-performance, SKF puts the right bearing in the right place. 6466

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

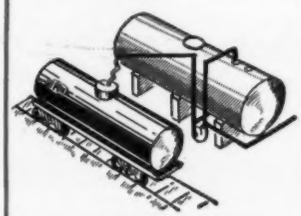
● *Built by* WHITIN MACHINE WORKS

DU PONT CLOTH HEATER is the heart of the Du Pont Continuous System. This exclusive feature permits controlled bleaching—gives automatic control of the best bleaching temperature selected for a given fabric, regardless of cloth weight or operating speed. With uniform heating, you get the uniform bleaching needed for uniform dyeing.

FOR GREATEST ECONOMY, CONSIDER:



TANK STORAGE AT THE MILL



TANK CAR DELIVERIES

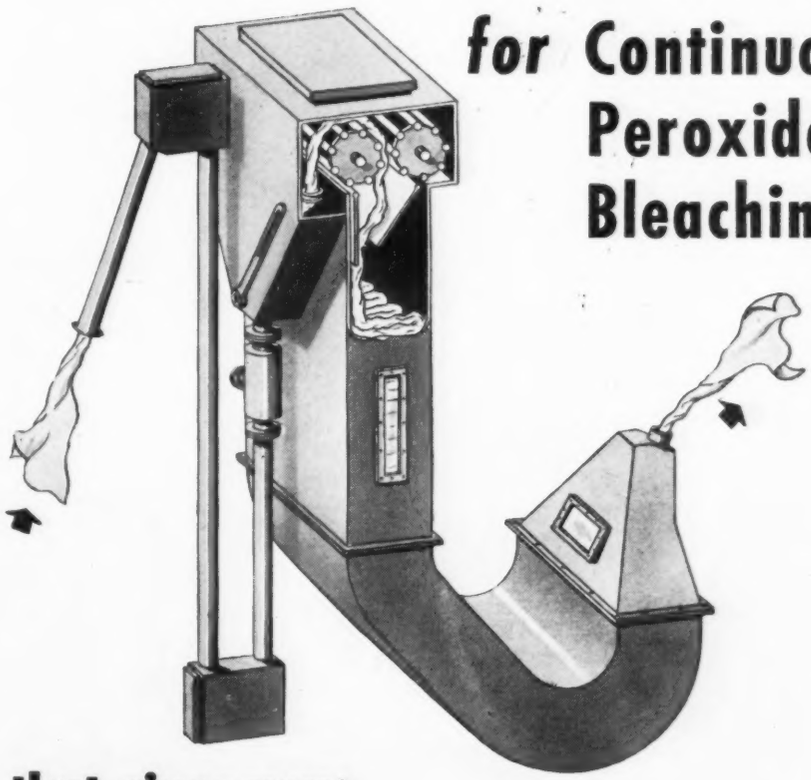
If you need 5000 lbs. or more of "Albone" 35 (35% Hydrogen Peroxide) per month, you'll find a storage tank installation to be economical.

SEND FOR THIS NEW BOOK!

It shows typical continuous bleach layouts designed to fit the requirements of various plants. For a copy just write: E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Del.

Du Pont Announces

A New High-Speed J-Box for Continuous Peroxide Bleaching



that gives you:

1. **Higher bleaching speeds—limited only by washer capacity.**
2. **Improved piling mechanism—positive pulling draw reels handle cloth faster than previous designs.**
3. **Increased capacity—more cloth can be handled without increase in the size of equipment.**
4. **Reduction in floor space requirements—overall length of J-Box has been reduced by 25% or more.**

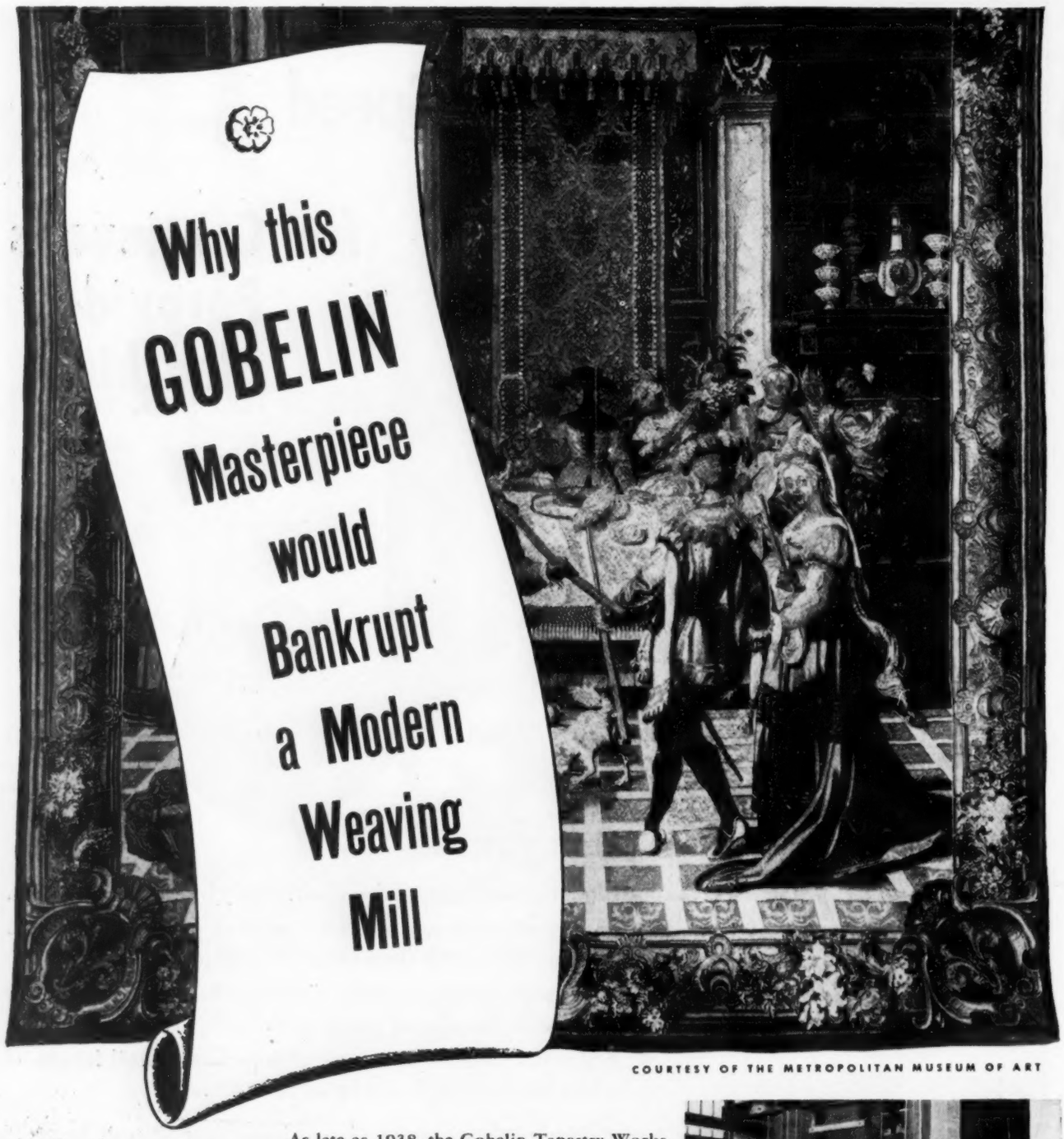
THE NEW J-Box is but one of the outstanding features found in the Du Pont Continuous Peroxide Bleaching Systems. They are readily adaptable to speedy, uniform processing . . . produce quality bleaching at lower over-all cost. In use in many leading mills, Du Pont Continuous Systems are easy to set up, operate and control . . . and they're backed up by readily available Du Pont Technical Service.

Tune in Du Pont "Cavalcade of America" Monday nights—NBC Coast to Coast

DU PONT CONTINUOUS PEROXIDE BLEACHING

DU PONT

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

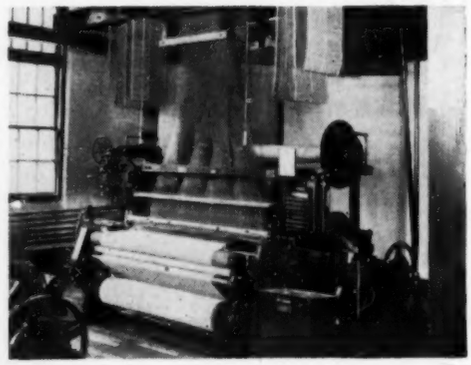


Why this GOBELIN Masterpiece would Bankrupt a Modern Weaving Mill

COURTESY OF THE METROPOLITAN MUSEUM OF ART

As late as 1938, the Gobelin Tapestry Works in Paris were government-operated on the same basis on which they were started in 1500. The filling was passed back and forth through the warp *by hand.* More than 400 years without any technical developments to make these masterpieces more widely available! No private enterprise could long survive on that basis.

Today, modern masterpieces in many different types of fabric are made readily available by C&K Looms which weave first-quality yardage at high speeds . . . by C&K Looms which, in the short space of the last 20 years, *have steadily increased output per man-hour up to 45% and over.*



And C&K Looms now being produced are recording new increases in efficiency . . . are helping to keep retail markets humming with all types of soft goods in quantities and at prices which mean steady business and profits to mills, manufacturers and merchants. Whatever type of fancy fabric *you* produce, C&K Looms will weave it faster and better, at lower cost.

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.

PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.

C&K

CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

GOOD NEWS FOR YOU!

The *Kidde* Tension Compensator—described in this new bulletin —*automatically* maintains constant output tension—at any desired value from 10 to 120 grams. Changes in yarn coefficient of friction, input tension, yarn speed, or mill temperature and humidity *will not affect output tension.*

In months of actual mill tests, ball-bearing compensating discs held tension within 2 grams of preset figure! Resulting advantages include: reduction of shiners and shell-offs on filling winding; magazine creeling of coarse yarns, without corkscrews or uneven plying; taking out of all stretch in rubber warping.

The first announcement of the Tension Compensator brought such an immediate response that our production lagged behind the industry's demand. We're geared up now —and ready to fill your order!

MAIL COUPON FOR BULLETIN

Walter Kidde & Company, Inc.
690 Main Street, Belleville 9, N. J.

Gentlemen:

Please send me your bulletin on the *Kidde* Tension Compensator.

Name.....

Position.....

Company.....

Street Address.....

City..... *Zone No.*..... *State*.....

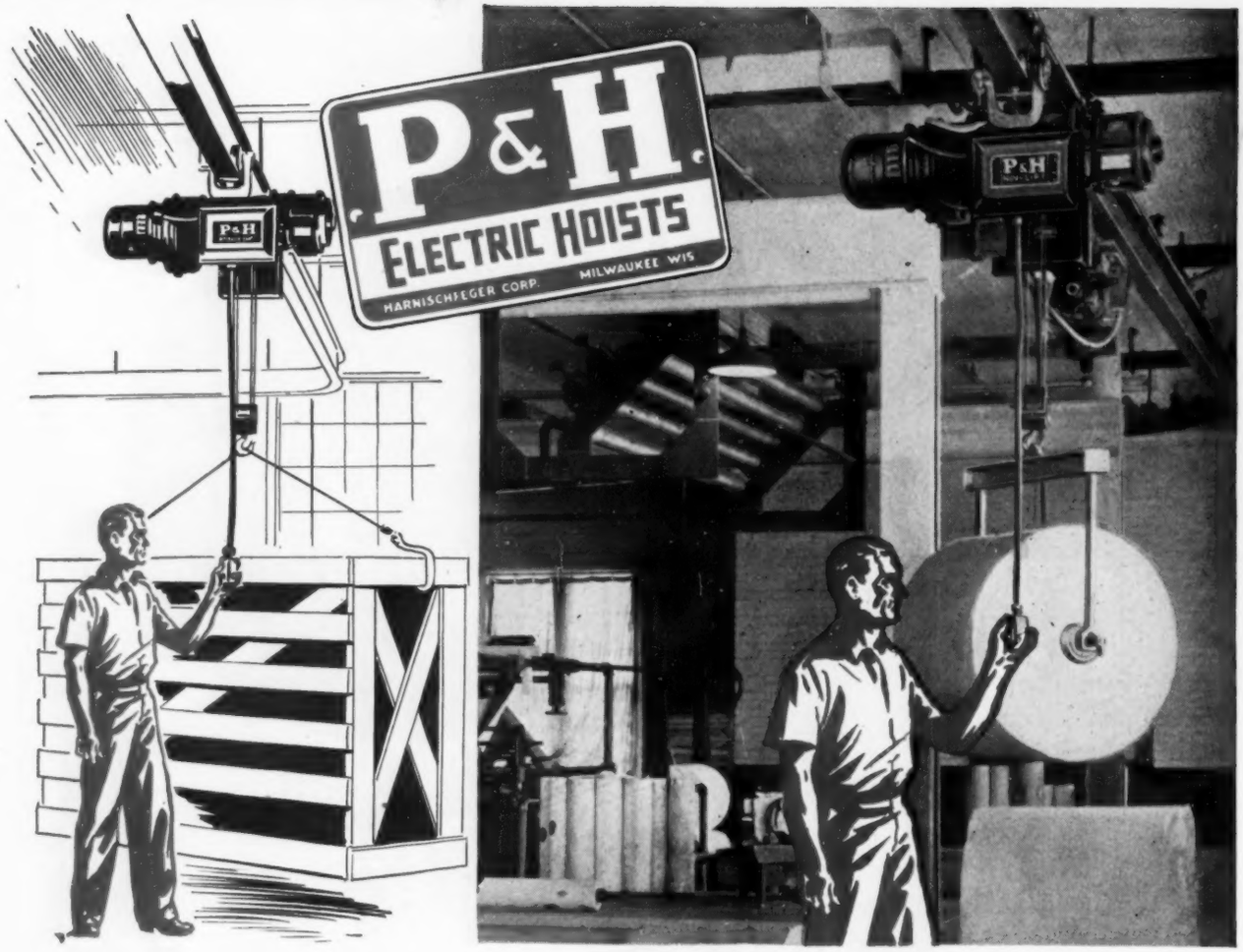
WALTER KIDDE & COMPANY, INC. 690 MAIN STREET, BELLEVILLE 9, N. J.

The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc.

FIRE EXTINGUISHING EQUIPMENT
FIRE DETECTION DEVICES
HIGH-PRESSURE CONTAINERS
OIL RE-REFINERS AND FILTERS

Kidde
MANUFACTURING ENGINEERS

VALVES, CYLINDERS, SPHERES
TEXTILE MACHINERY
AVIATION SAFETY DEVICES
OIL HEAT TRANSFER UNITS

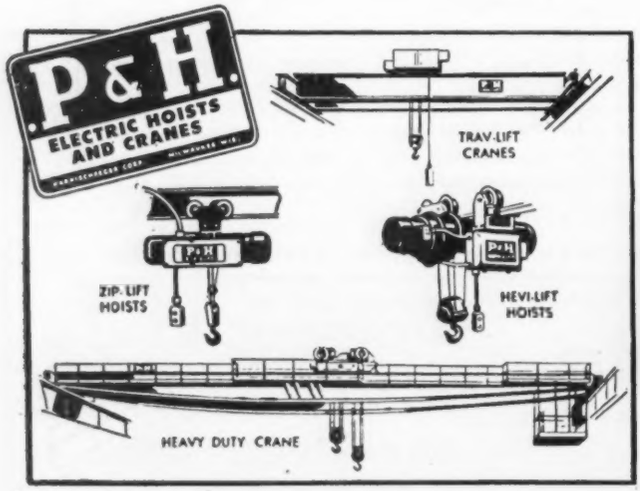


ONE MAN handles your biggest loads when textiles move "*Thru-the-Air!*"

The man pushes buttons — the P&H Electric Hoist does the work. Without effort, without delay, heavy loads are lifted, moved, "spotted" into place. That's *thru-the-air* handling!

Around textile mills, no other form of handling does so much to speed production, save floor space. None is cleaner. And none is so adaptable to *all* textile operations. Many mills employ thru-the-air handling from the time materials enter the plant till the finished product leaves — and they save money with every move.

See how these savings apply to your plant. Talk it over with a P&H Hoist Engineer. If you wish further information, write us.



P&H
ELECTRIC HOISTS

HARNISCHFEGER
CORPORATION
HOISTS • WELDING ELECTRODES • MOTORS (P&H) EXCAVATORS • ELECTRIC CRANES • ARC WELDERS

4644 W. National Ave., Milwaukee 14, Wisconsin

NOW... a rayon tinting machine that is *Gentle*

Johnson rayon tinting and soaking machine, Senior Model, is equipped with six arms each of which accommodates 10 pounds of dry yarn. Three minutes are required to treat yarn in skeins, and eight minutes in cakes. A Junior Model is available with three arms.

If machine-damage and uneven tinting of yarns have been cutting into your rayon processing profits — here is some good news for you.

The Johnson Engineering and Manufacturing Company of Wilkes-Barre, Penn., have developed a rayon soaking and tinting machine that minimizes yarn chafing and gives more uniform distribution of color.

The secret of the "gentler touch" is in the improved spray heads which are located directly over revolving MONEL* skein arms. A balanced quantity of solution is delivered to both sides of the skein. Since the solution weight and pressure is thus equalized, chafing at the skein arms is largely eliminated.

Danger of metallic contamination and rust discoloration is eliminated in the Johnson machine by using corrosion-resistant MONEL for all yarn and solution contact points. And because of its resistance to scaling and excellent heat-transfer characteristics, the MONEL cladding of the steam-jacketed tanks insures long service life and lower maintenance costs.

Other outstanding features of the machine are —oilless bronze bearings, temperature control for keeping solution between 120° and 160° F., steam regulator, spray control valves, moisture proof switches, and dial temperature indicators.

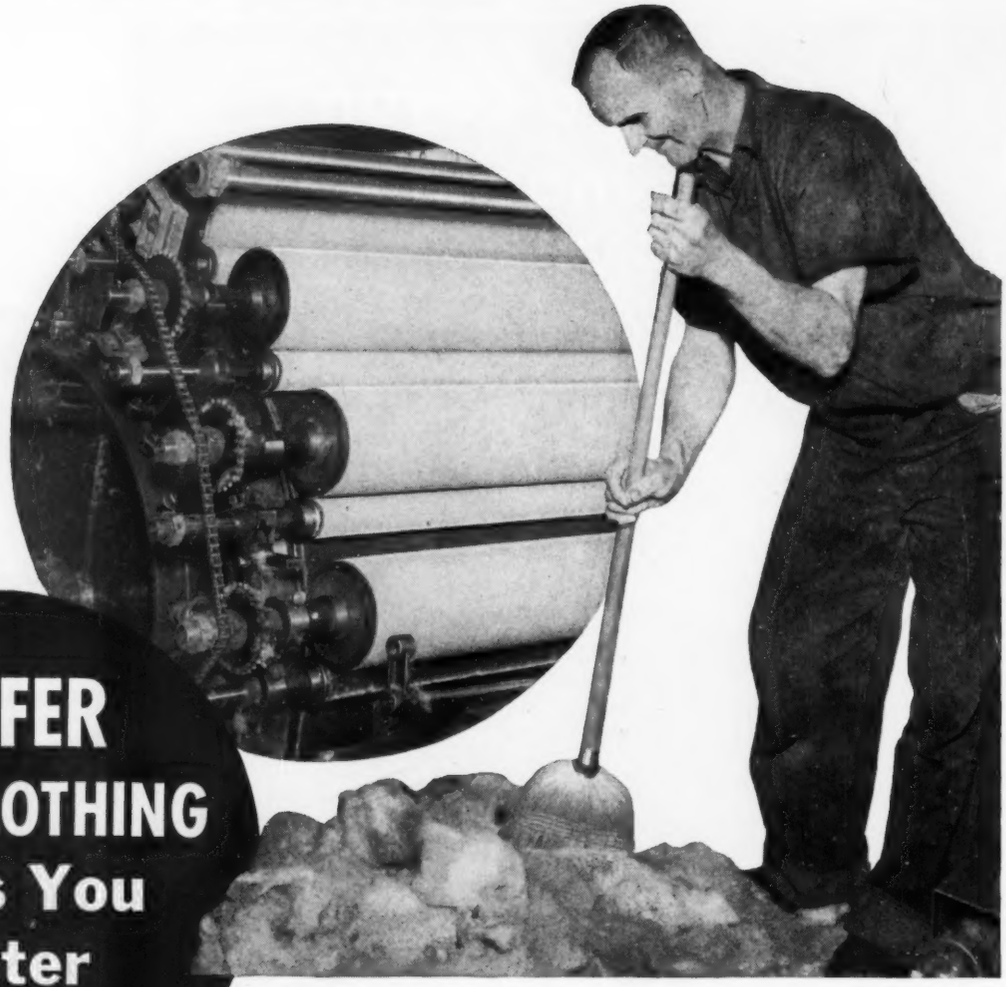
For full information, write to the Johnson Engineering and Manufacturing Co., Wilkes-Barre, Penn.

*Reg. U. S. Pat. Off.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York 5, N. Y.

EMBLEM OF SERVICE INCO TRADE MARK

*Monel** ... for TOP PROTECTION all ways



TUFFER CARD CLOTHING Gives You Better Quality

and Reduces Raw Stock Losses

THE accurately-formed wires of Tuffer Card Clothing—uniformly placed in the famous Tuffer Foundation—give proper carding action . . . carding action that assures high production of top quality material and eliminates serious losses in raw stock. Tuffer Card Clothing gives you better results and reduces manufacturing costs in every department. Talk over your carding problems with a Howard Bros. representative. He will work with you in increasing the yield of your cards . . . and make practical recommendations that will mean better yarns at lower production costs.

HOWARD BROS. MFG. CO.
WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C. **Branches:** Philadelphia, Pa. and Blanco, Texas
Direct Representation in Canada A-3

TUFFER CARD CLOTHING

IMPROVES PRODUCTION ALL ALONG THE LINE

TERGITOL *wetting agents are*

SPECIFIC

If your textile operation is one of the following, a specific TERGITOL wetting agent can save you money and processing time:

WOOL CARBONIZING . . . remarkable wetting action and complete stability.

DYEING . . . rapid and level dyeings with all types of colors.

MERCERIZING . . . greatly increased speed, and chemical stability.

SHRINKING . . . instant wetting for caustic shrinking of knitted goods.

BLEACHING . . . no preliminary boil-out needed for mercerized and grey cotton stocks.

TWIST SETTING . . . increased speed of wetting.

TERGITOL 7 . . . for dilute aqueous solutions containing less than 1 per cent dissolved solids.

TERGITOL P-28 . . . for water solutions containing 2 to 5 per cent inorganic salts or 1 to 2 per cent alkalies.

TERGITOL 4 . . . for solutions containing from 1 to 10 per cent acids or salts, or 2 to 5 per cent alkalies.

TERGITOL 08 . . . for solutions containing 10 to 20 per cent acids, alkalies, or salts.

TERGITOL EH . . . for solutions containing 20 to 30 per cent dissolved inorganic acid, base, or salt.

CARBIDE and CARBON CHEMICALS CORPORATION

Unit of Union Carbide and Carbon Corporation

30 East 42nd Street UCC New York 17, N. Y.

Offices in Principal Cities

In Canada:

Carbide and Carbon Chemicals, Limited, Toronto

TERGITOL is a registered trade-mark of C & CCC.

The five TERGITOL wetting agents are powerful, fast-acting textile penetrants. And they are chemically stable under severe operating conditions. These easy-to-use liquids are inexpensive—a little goes a long way. They are available from local warehouse stocks. For help in choosing the most suitable TERGITOL wetting agent for your application call or write our nearest office. When writing, please address Dept. **T-6.**

H & B HIGH-DRAFT

Two Views

These High-Draft Slubbers at Saxon Mills, Spartanburg, South Carolina, are like many other H & B installations and reflect the industry's widespread acceptance of modern high-draft slubbing.

Here are eighteen 8 x 4 and eighteen 9 x 4½ H & B slubbers, with 132 spindles per frame. Each machine has a 5-roll drafting unit and an individual motor drive, and all are suitable for a wide range of hank sizes.

Excellent design, materials and workmanship combine in H & B High-Draft Slubbers to produce high quality, low cost roving. Low cost, because high-draft eliminates from 1 to 3 operations. High quality, because of the features listed on the adjacent page.

H & B AMERICAN

Builders of Modern

FACTORY, EXECUTIVE OFFICES AND EXPORT

SLUBBER INSTALLATION

at Saxon Mills

Here's why many mills prefer H & B High-Draft Slubbers:

1. Extruded aluminum roller beams, bobbin rails, snug rails, snugs and octagon rolls.
2. Four-roll or five-roll drafting system.
3. Chain drive to the bobbin shaft.
4. Clean rolls due to efficient bottom and top clearers.
5. Dependable builder motion.
6. Positive roll weighting by means of streamlined saddle and weighting assembly.
7. Easy distribution of drafts—intermediate draft adjustments can be made without changing the overall draft.
8. New type differential motion with straight cut spur gears throughout.

MACHINE CO.

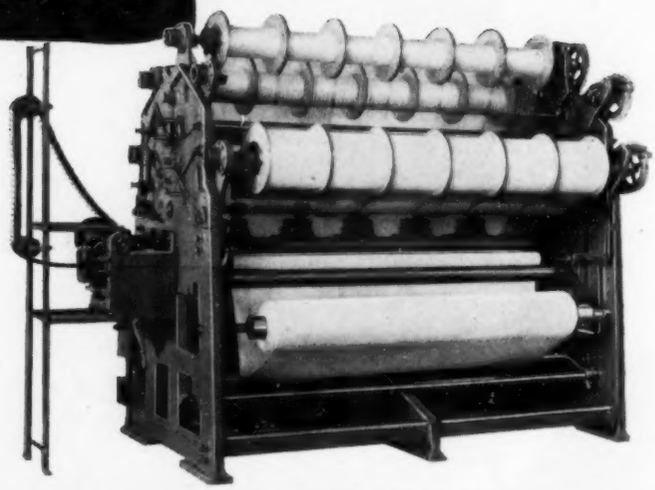
Textile Machinery

DIVISION PAWTUCKET, RHODE ISLAND, U. S. A.

BRANCH OFFICES
ATLANTA, GA.
815 CITIZENS AND SOUTHERN NATIONAL BANK BUILDING
CHARLOTTE, N. C.
1201 JOHNSTON BUILDING

Results are Immediate

in Improved Quality, Higher Production and Lower Cost with REEVES Speed Control



You get the right results—*right away*—when REEVES Speed Control is applied to your machines. Costly stops and slow-downs are eliminated. Rate of production is increased and quality of finished product is higher and more uniform.

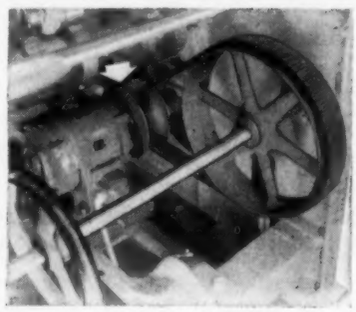
REEVES Variable Speed Drives assure these results by *instantly* and *accurately* compensating for every change in texture, weight, temperature, moisture content, operator skill and other variables . . . by providing the right speed for every job, *under every changing condition.*

Proved on beamers, slashers, warpers, dry cans, mangles, dryers, nappers, range finishers and many other types of textile machines, the complete line of REEVES Speed Control equipment includes three basic units which are available in a full range of designs, sizes, capacities and speed ratios—with manual, push-button or completely automatic control.

A REEVES engineer widely experienced in textile applications will be glad to work with you in solving your particular speed control problems. Write today, and ask for a copy of the comprehensive, 114-page catalog T-450A.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

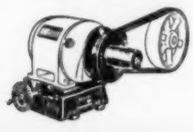
Recognized Leader in the Specialized Field of Speed Control Engineering



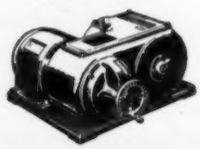
This flat knitting machine, the Kayloom, handles a wide variety of fabrics at speeds up to 250 rpm. The ideal speed for each fabric—from 95 to 250 rpm—is provided instantly by the REEVES Vari-Speed Motor Pulley (left) with which the Kayloom is equipped. A turn of the convenient REEVES handwheel permits speed changes while the machine is in operation. The Kayloom is manufactured by Robert Reiner, Incorporated, Weehawken, N.J.

THE THREE BASIC REEVES SPEED CONTROL UNITS

VARIABLE SPEED TRANSMISSION for providing infinite, accurate speed flexibility over a wide range—2:1 to 16:1. Sizes—fractional to 87 hp.



VARI-SPEED MOTOR PULLEY provides an instantly variable speed drive within 4:1 ratio for any constant speed motor. Sizes to 15 hp.



MOTODRIVE combines motor, speed varying mechanism and reduction gears in single compact unit. Speed variations 2:1 to 6:1 inclusive. Sizes to 15 hp.

ACCURATE • VARIABLE

Reeves Speed Control

GIVES THE RIGHT SPEED FOR EVERY JOB!

for *Lovely Textures*

achieve
superior
processing
results...
economically!

with

CYANAMID

SULFONATED OILS

Why? Simply because you cut costs
by using these superior oils in your processing.

Have the economies all on your side,
by having Cyanamid Sulfonated Oils work efficiently,
dependably to bring you consistently top-quality results.

Remember . . . *from source through sulfonation,*
Cyanamid controls the quality.

A WIDE RANGE OF SUPERIOR OILS

is becoming more generally available as Cyanamid's channels of raw material supply continue to open up.

AMONG CYANAMID PRODUCTS FOR THE TEXTILE INDUSTRY ARE . . .

AQUASOL* Sulfonated Castor Oils; NO-ODOROL* Finishing Oils; DECERESOL* Wetting Agents; PARAMUL* 115 Water Repellent; Penetrants, Softeners, Finishes, Sizing Compounds, and other specialties and Heavy Chemicals.

For low-cost chemical equivalent of distilled H_2O . . . FILT-R-STIL Demineralizing Units*

*Reg. U. S. Pat. Off.

AMERICAN Cyanamid COMPANY • *Industrial Chemicals Division*

30 ROCKEFELLER PLAZA • NEW YORK 20, N. Y.

SALES OFFICES: Boston, Mass. • Philadelphia, Pa. • Pittsburgh, Pa. • Baltimore, Md. • Charlotte, N. C. • Cleveland, O. • Cincinnati, O. • Chicago, Ill. • Detroit, Mich. Kalamazoo, Mich. • St. Louis, Mo. • Los Angeles, Cal. • San Francisco, Cal. • Seattle, Wash. • *In Canada:* Dillons Chemical Co. Ltd., Montreal and Toronto

First Major SLASHER DRIVE IMPROVEMENT

The new Westinghouse ROTOTROL-regulated Multi-Motor Slasher Drive controls tension . . . improves quality . . . increases production . . . reduces cost.

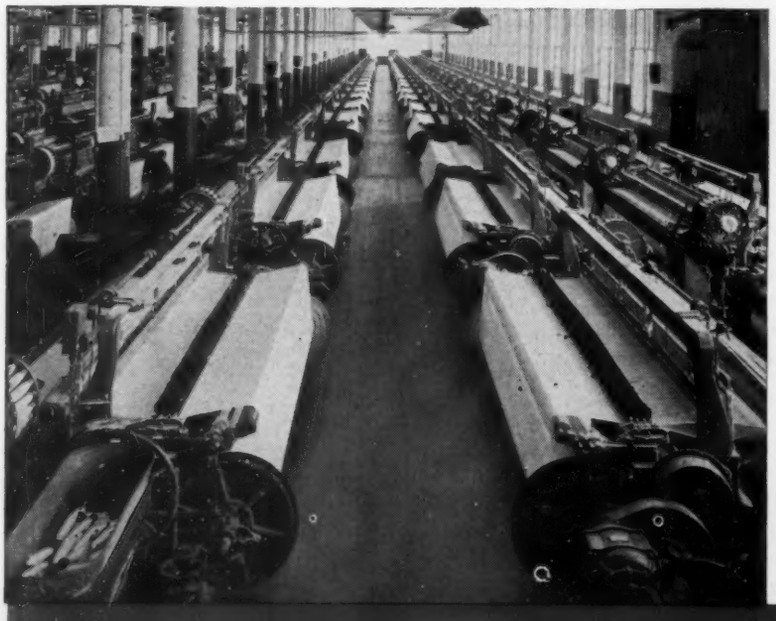
Stop the damage to warp yarns in the slasher room and get better quality, greater production and lower costs. Even with the best care in yarn preparation, improper slashing can ruin the strongest fibers and result in off-quality cloth and lost time in the weave room.

The most common cause of damage to warp yarns is the result of variations in tension. Westinghouse has made uniform tension possible with the multi-motor slasher drive through ROTOTROL tension control.

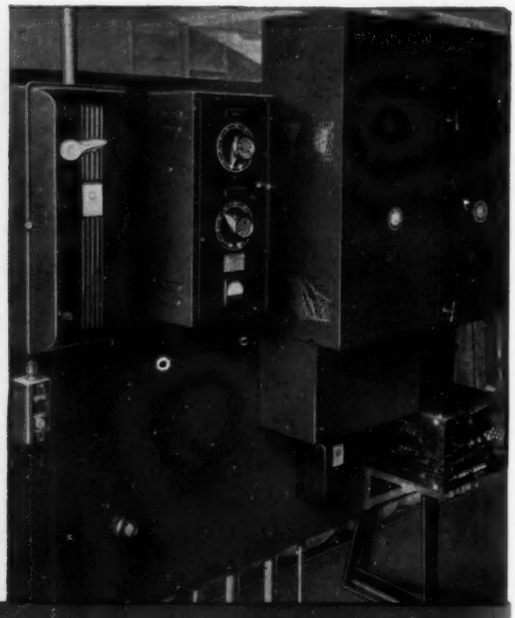
Essentially, this is a d-c adjustable voltage system, with ROTOTROL, and individual motors or gearmotors on the beam, delivery roll, cylinders and size boxes. The speed of the slasher is adjusted at a master control station. The control action of the ROTOTROL maintains the present tension value during the beam build-up. Tension is always uniform.

This drive has already proved its superiority in actual service. Results have been outstanding. For more information about this improved drive call your nearest Westinghouse Office or write for booklet B-3491. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

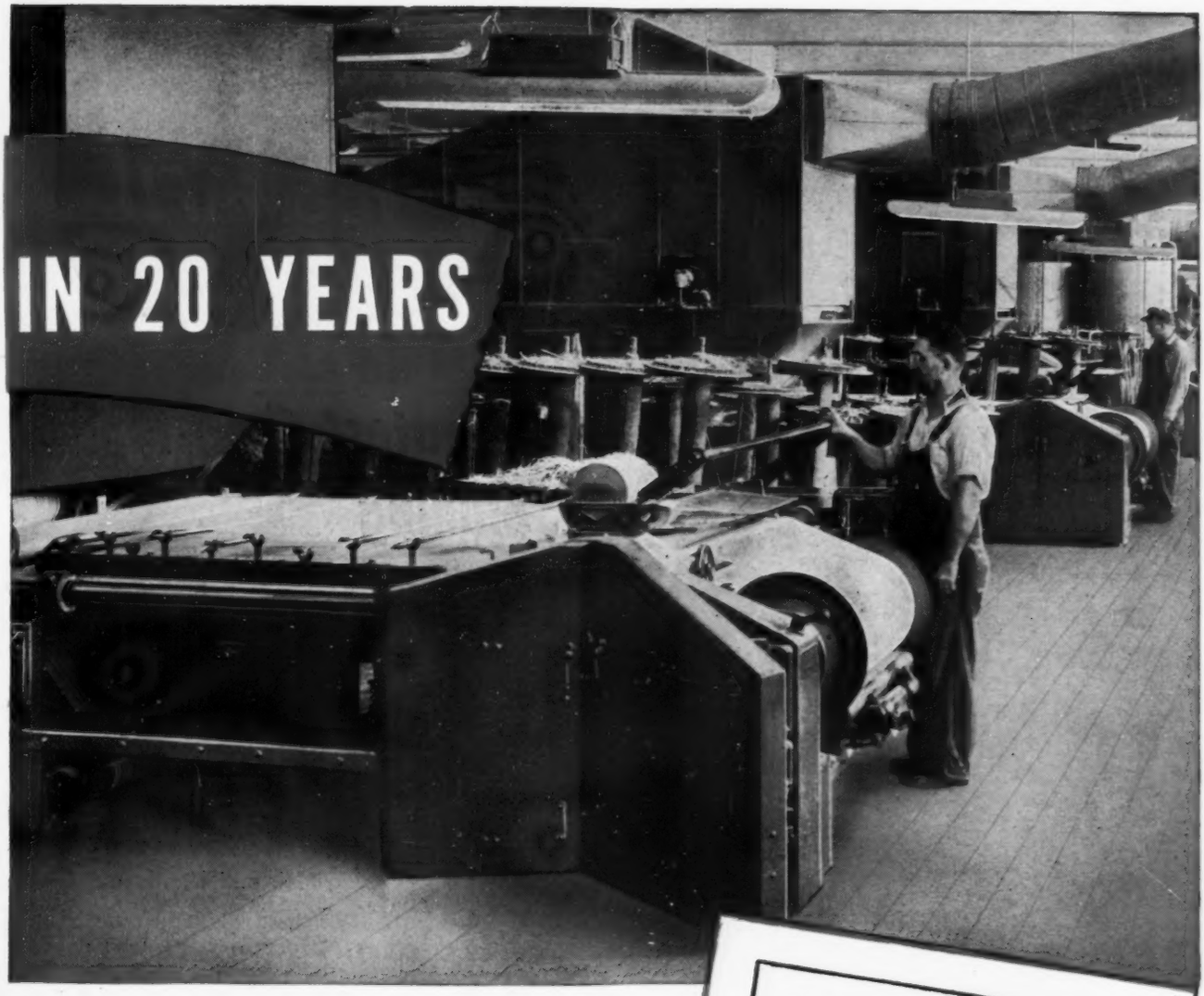
J-94658-A



Regardless of the care taken in processing the yarn, improper slashing can ruin the strongest fibers and result in off-quality cloth and lost time in the weave room. Uniform tension obtained with the Westinghouse Multi-Motor Slasher Drive eliminates this difficulty.



Master control station for the Westinghouse Multi-Motor Slasher Drive. With ROTOTROL control there are no vibrating relays, contactors or other delicate parts requiring adjustment. After initial adjustment at time of installation, ROTOTROL requires only routine maintenance.



Battery of slashers as seen from the delivery end. Motors are mounted underneath. The ROTOTROL is mounted on a platform above the slasher.

YOU CAN EXPECT THESE RESULTS WITH THE MULTI-MOTOR SLASHER DRIVE

- Uniform Yarn Tension
- Uniform Yarn Diameter
- Uniform Beam Density
- Better Filler Yarn Spacing
- Less Yarn Breakage
- More Warp on the Beam
- Fewer Stops and Adjustments
- Increased Production
- Improved Cloth Quality
- Lower Production Costs

Westinghouse

PLANTS IN 25 CITIES... OFFICES EVERYWHERE

MULTI-MOTOR SLASHER DRIVE

PNEUMAFIL*

"The Greatest Contribution to Spinning in My Time,"

... says a mill operating executive with 30 years' experience.

Others who have Pneumafil equipped spinning frames are expressing themselves just as emphatically by equipping their entire mills in order to:

Increase Production Lower Manufacturing Costs . . . and Improve Quality

Whether you spin cotton, wool, worsted, jute, flax, asbestos, cut staple or continuous filament rayon, you too can enjoy the benefits and reap the profits made possible with Pneumafil.

Let us help you analyze the economies of Pneumafil as apply to your mill.

Continental Europe and South America:
LUWA, S. A.
Zurich, Switzerland
Canada:
Ian M. Haldane & Co.
P. O. Box 54, London, Canada
Mexico:
Tecnotex, S. A., Monterrey 101,
Mexico, D. F.

**Registered Trade Mark*

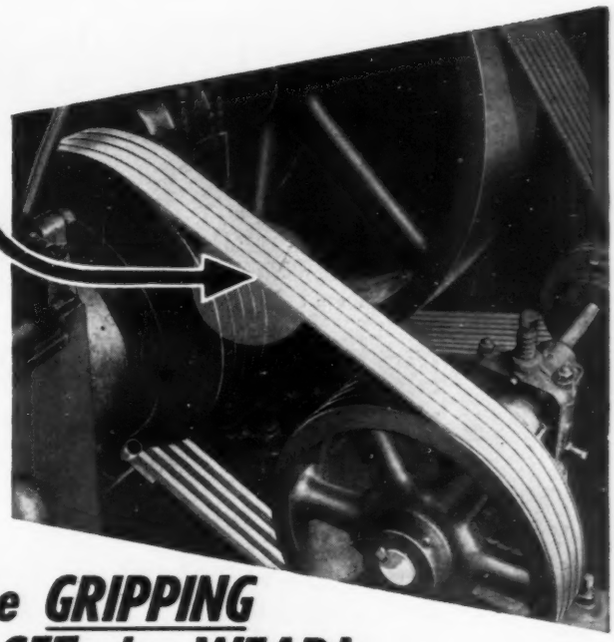
Pneumafil Corporation
Little Building, Boston 16, Mass.

Pneumafil Corporation · Charlotte 6, N. C.

THE SIDES of a V-BELT

Diagram of V-Belt in Sheave-Groove

Are ALL that TOUCH the Pulley



The SIDES Do ALL the GRIPPING Naturally — They GET the WEAR!

The moment you look at a V-Belt in its sheave, you see that the *sides* are the only part that ever *touch* the pulley. The *sides* do all the *gripping*—they get *all the wear* against the sheave groove wall. The sides *pick up* the load. They transmit that load to the belt as a whole. And then, once more, the sides—and the sides alone—take hold of the driven pulley and deliver the power to it.

That is why you have always noticed that the sidewall of the *ordinary* V-belt is the part that *wears out first.*

That's Why the CONCAVE SIDE
A GATES PATENT

Is IMPORTANT to You

Since the sidewall is the part that wears out first, anything that prolongs the life of the sidewall will naturally lengthen the life of the belt.

The simple diagrams on the left show exactly why the ordinary, straight-sided V-belt gets excessive wear along the *middle* of the sides. The diagrams show also why the Patented Concave Side greatly *lengthens the life* of the *sidewalls* of Gates Vulco Ropes. That is the simple reason why your Gates Vulco Ropes are giving you so much longer service than any straight-sided V-belt can possibly give.

The Concave Side is Even MORE IMPORTANT Now that SUPER VULCO ROPES *Are Available!*

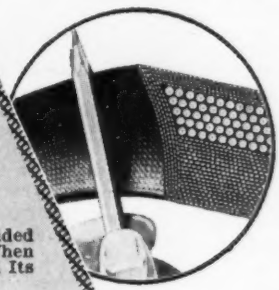
Now that Gates *SPECIALIZED* Research has resulted in Super Vulco Ropes capable of carrying much heavier loads—fully 40% higher horsepower ratings—the sidewall of the belt is called upon to do even more work in transmitting these heavier loads to the pulley. Naturally, with heavier loading on the sidewall, the life-prolonging Concave Side is more important now than ever before!

Fig. 1

Straight Sided V-Belt

Fig. 1-A

How Straight Sided V-Belt Bulges When Bending Around Its Pulley



You can actually feel the bulging of a Straight-sided V-Belt by holding the sides between your finger and thumb and then bending the belt. Naturally, this bulging produces excessive wear along the middle of the sidewall as indicated by arrows.

Fig. 2

Gates V-Belt with Patented Concave Sidewall

Fig. 2-A

Showing How Concave Side of Gates V-Belt Straightens to Make Perfect Fit in Sheave Groove When Belt is Bending Over Pulley.

No bulging against the sides of the sheave groove means that sidewall wear is evenly distributed over the full width of the sidewall — and that means much longer life for the belt!

The Gates Rubber Company

"The World's Largest Makers of V-Belts"

DENVER, U. S. A.

483

Gates

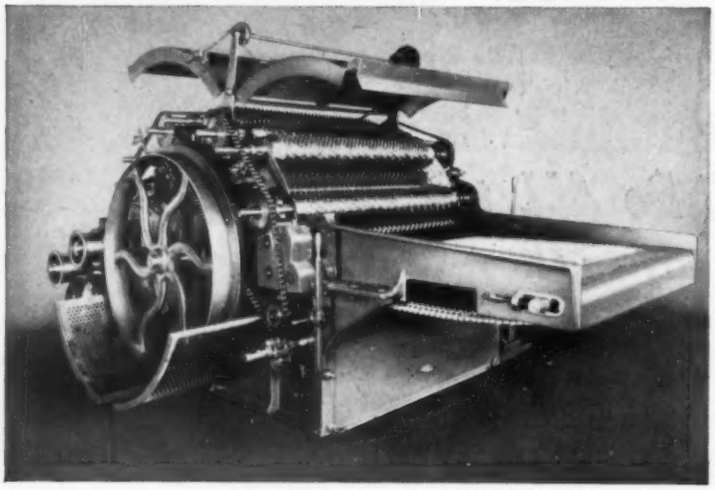
THE MARK OF SPECIALIZED RESEARCH

GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks IN ALL INDUSTRIAL CENTERS of the U. S. and 71 Foreign Countries

FOR YOUR INFORMATION

NOW...Woolens as well as worsteds get added YARN strength with SYTON*



Syton is added to oil and applied, here at the picker, usually in a spray or dip.

Increases in yarn tensile strength from ten up to 30% . . . for woolens as well as worsteds . . . are being obtained by mills using Monsanto's submicroscopic dispersion. Syton. Applied in oil at the picker, the evenly-distributed silica particles strengthen woolen yarn by increasing "fiber drag," reducing the tendency of individual fibers to slide by each other. The stronger, Syton-treated woolens include these five operating advantages:

1 **INCREASED PRODUCTION:** Since Syton strengthens woolens by reducing fiber slippage, the amount of twist necessary to maintain a given tensile strength can be reduced. This reduction in twist means a corresponding increase in the rate of spinning . . . the rate of production.

2 **LOFTIER YARNS:** A second advantage of reducing twist is that loft of woolen yarn is improved . . . with tensile strength equal to or greater than that of untreated yarns of normal twist. This loft and softness . . . with yarn strength maintained . . . is a major advantage in knitting yarns. In a previous stage, the loftier roping resulting from Syton allows an easier draft in the spinning operation.

3 **FEWER ENDS DOWN:** Reductions in ends down vary from 25% to 50% depending on the grade of wool . . . an outstanding operating benefit. Mills report that Syton also reduces lap waste and the amount of fly during spinning and cuts down static charge in the fiber.

4 **IMPROVED SPINNING QUALITIES:** As a result of twist reduction, Syton-treated fibers have less tendency to move forward and form slubs during spinning. The quality and appearance of the yarn is improved and more uniform; fewer slubs, thin spots and tied ends.

5 **FINER YARNS POSSIBLE:** Syton-treated yarns may be spun closer to the limit spin, depending upon the particular grade of wool.

Woolen mills now can gain early competitive advantages by looking into Syton . . . now . . . for improved fabrics and greater production efficiency. The handy coupon, checked at F1, will bring you full information.

STYMER* FOR ACETATE CUTS STATIC PROBLEMS

Static electricity . . . and the problems it creates in acetate weaving . . . are greatly reduced when Monsanto's new synthetic sizing agent, Stymer, is used to slash the warps. The static electricity reduction is only one of the reasons Stymer is proving successful in current mill weaving operations.

Stymer is easily applied in a uniform coating on the individual yarn. It adheres well to the fiber and is also easy to scour from the woven fabric in warm water containing alkali and a detergent. The Stymer sized warp, in addition to reducing static, is strong, abrasion resistant, and smooth.

You are invited to try Stymer in your own acetate sizing operations. F3 on the coupon will bring you full information.

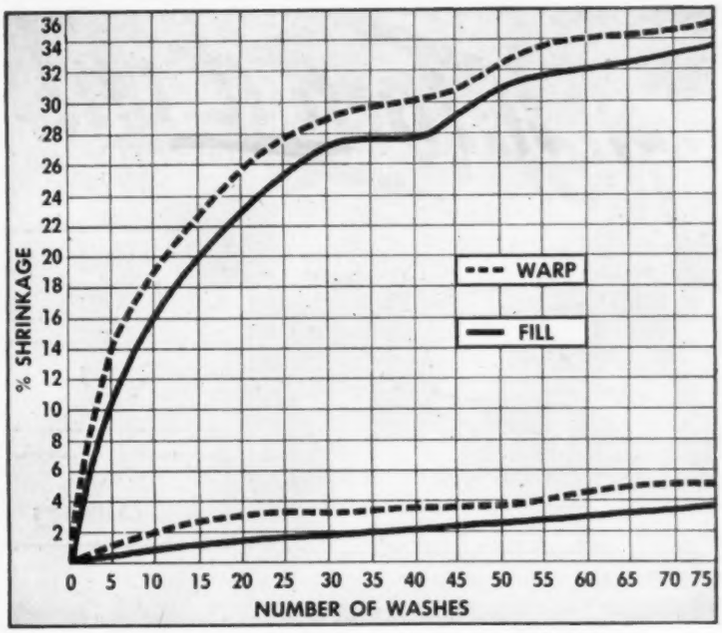
BETTER, MORE DURABLE COTTON FINISHES ACHIEVED WITH MERLON*

Durable cotton sheeting finishes with a soft, fine, appearance are now provided by Monsanto's Merlon BR, a stable dispersion of plasticized polyvinyl butyral in water. The fine hand . . . necessary for merchandising . . . remains on the goods after several washings. To achieve the desired finish the Merlon is used in concentrations of about one to 3% solids.

Formulations of Merlon with thickeners, fillers and pigments may be prepared to alter viscosity, improve body, change film characteristics, add color and reduce cost.

Both Merlon BR and Merlon BRS, a companion product with added plasticizer, are recommended for all types of finishing operations and for combining, bonding and strengthening textile fibers and fabrics. Because of their advantages over fugitive type finishes, they are particularly recommended for rug and pile fabric backings, adhesives and coatings. The coupon, checked at F2, will bring you full information.

75 WASHES PROVE RESLOOM* DURABLE IN WASHABLE WOOL



Untreated, all-wool 9½ oz. flannel shows up to 34% shrinkage in 75 washes while Resloom-treated flannel shrinks less than 5% in 75 washes . . . which would cover the normal life of the fabric.

New and conclusive tests prove that Resloom W, Monsanto's melamine resin for washable wool, is a lasting, durable treatment which does not wash out of the fiber even after 75 washes. Mill-run, Resloomed-flannel shrank as little as 3% during 35 washes in laboratory automatic washing machine . . . and only a total of 5% after 75 commercial practice washes. The same 9 oz. flannel shrank 28% to 30% in 40 washes and 34% in 75 washes.

Main significance to manufacturers and retailers lies in this fact, now well established: Resloom W keeps wool washable for the lifetime of the garment under practical wearing and washing conditions. The 75 washes are far more than the average consumer uses on woolens such as sports shirts, blankets, children's garments or suiting.

While the tests indicated on the chart were made in the laboratory, further proof of Resloom's efficiency for washable wool is available in actual field tests. For several months last winter a large number of Resloom-treated shirts were tested . . . worn and washed under usual consumer conditions. There was no noticeable shrinkage in any of the shirts. Further tests by Monsanto show that maximum shrinkage was less than 2%.

One manufacturer of Resloom-treated woolens is tagging his shirts: "Wash or dry clean," and has been selling them successfully for more than a year. Not one shirt has been returned for shrinkage!

Now is the time to give your woolens this plus value . . . make them washable with Resloom W . . . Monsanto's effective, durable, field-tested process for shrinkage control.

*Reg. U. S. Pat. Off.

SUDSLESS STED ACHIEVES BETTER TEXTILE CLEANING

Contrary to deep-rooted belief . . . even in some textile mills . . . foam is not necessarily a mark of good detergency.

For example, current Monsanto tests show that the cleaning efficiency of Monsanto's low-cost textile detergent STED surpasses the detergency of most lather-producing compounds. The action of Sted reduces the adherence of soil to the fabric surface and holds it in suspension so that mechanical action and subsequent rinsing will remove the soil without redeposition.

Sted is scientifically built, non-ionic detergent to be used specifically in textile washing where it succeeds at the toughest jobs. It is particularly useful in operations where foam and scum are objectionable . . . and in hard water. Sted's non-ionic nature, high potency, non-substantivity and low pH values make it particularly effective in wool scouring. With Sted, very little grease is retained and the wool is loftier, more open and brighter. None of the detergent is deposited on the wool as with substantive detergents.

The powerful new detergent is also recommended for backwashing, desizing, kier boiling, continuous bleaching, silk degumming, hosiery scouring and for the soaping off printed and dyed goods.

Although Sted's detergent action is powerful, the product is so mild that it will not damage the most delicate fiber . . . regardless of the nature of the soil. The moderate pH values of this Monsanto product provide buffered alkalinity . . . protecting the fiber from the action of strong alkalis. Sted is non-oxidizing and can cause no tendering or reduction in fabric strength as it does not form acid or alkaline products in a fabric upon storage. Your inquiries are invited through F5 on the coupon.

MONSANTO
CHEMICALS — PLASTICS

MONSANTO CHEMICAL COMPANY, Desk No. TIT 6, Textile Chemicals Dept.
140 Federal Street, Boston 10, Mass.

Please send me information on the subjects checked below:

.....F1 .....F2 .....F3 .....F4 .....F5.

Name _____ Title _____

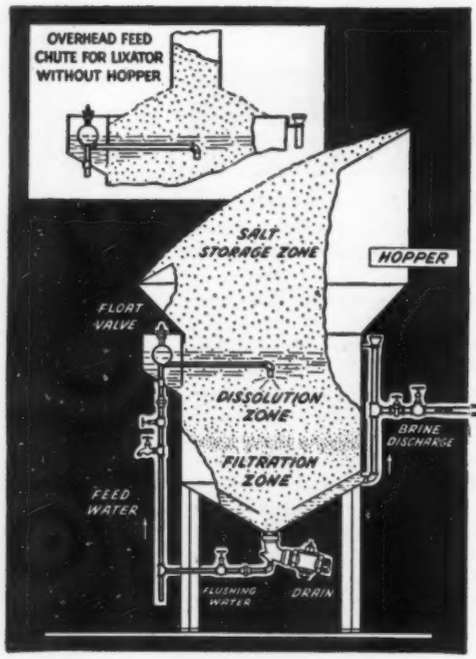
Company _____

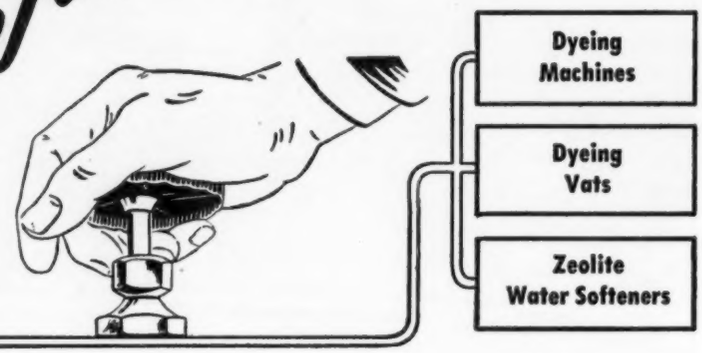
Address _____

City _____ State _____

SERVING INDUSTRY . . . WHICH SERVES MANKIND

Why HAUL SALT MEASURE SALT STIR SALT? just Turn it on!





HOW THE LIXATOR WORKS

In the dissolution zone—Flowing through a bed of Sterling Rock Salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. **In the filtration zone**—Through use of the self-filtration principle **originated by International,** the saturated brine is thoroughly filtered through a bed of undissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

WHAT THE LIXATOR PROVIDES

- ✓ **Chemical and bacterial purity to meet the most exacting standards for brine**
- ✓ **Unvarying salt content of 2.65 pounds per gallon of brine**
- ✓ **Crystal-clear brine**
- ✓ **Continuous supply of brine**
- ✓ **Automatic salt and water feed to Lixator**
- ✓ **Inexpensive, rapid distribution of brine to points of use by pump and piping**

YOU CAN ELIMINATE shoveling salt from storage, hauling salt around the plant, and laborious hand-stirring of salt and water . . . with the Lixate Process for Making Brine. This exclusive International development also stops waste of salt through spilling. It saves valuable time and labor, and assures accurate salt measurement.

For the Lixator *automatically* produces 100% saturated, free-flowing, crystal-clear brine which may be piped to as many points in your plant as you wish—any distance away—by gravity or pump.

You simply turn a valve for self-filtered brine that meets the most exacting chemical and bacterial standards for every brine need. Lixate brine is quickly and accurately diluted volumetrically to any desired strength.

Many Lixate users report savings of as high as 20%. Why not investigate the Lixate Process for your plant?

Completely flexible, a Lixate installation can be made to supply any needed brine requirement. No costly investment is required. The Lixator pays for itself out of savings. See how others have saved—write now for your copy of "The Lixate Process for Making Brine."

INTERNATIONAL SALT CO., INC., Dept. Ti-6, Scranton, Pa.

*Name*_____

*Firm*_____

*Street*_____

*City*_____ *State*_____

The LIXATE Process
Reg. U. S. Pat. Off.
for making brine

INTERNATIONAL SALT COMPANY, INC
Scranton, Pa.

FREE AIR?

NOT ON YOUR LIFE!!

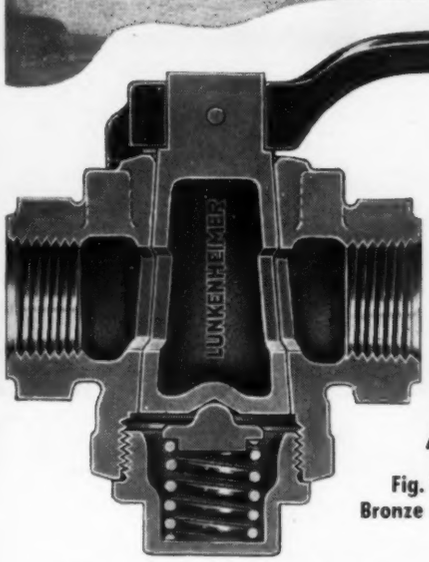


Fig. 1571
Bronze Air Cock

COMPRESSED AIR is a Valuable Tool . . . but costly if wasted!

SAVE IT with LUNKENHEIMER Air Devices

That h-i-s-s-s-s-s you may hear around your air lines means there's a villain loose in your plant. Costly compressed air is escaping, costing you money by the minute. But, you say . . . "it's only a pinhole, can't amount to much." Look at the chart below.

A SMALL LEAK MAY COST YOU AS MUCH AS $5.82 A MONTH.

AREA OF LEAK	AIR	
Diameter Inches	Number of cubic feet per month at 75 lb. pressure	Total cost of waste per month 11c per 1000 cubic feet
1/4"	3,366,990	$370.37
1/8"	824,570	$90.70
1/16"	213,000	$23.43
1/32"	52,910	$5.82

Check your plant . . . compressed air leaks mean that good dollars are "gone with the wind." Replace leaky or defective air devices with LUNKENHEIMER Air Cocks, Valves, Nozzles. Designed for air line service, LUNKENHEIMER Air Devices seat tight and stay tight, requiring minimum maintenance for long, efficient service life.

ESTABLISHED 1862

THE LUNKENHEIMER CO.

"QUALITY"

CINCINNATI 14, OHIO. U. S. A.

NEW YORK 13 CHICAGO 6
BOSTON 10 PHILADELPHIA 34

EXPORT DEPT. 318-322 HUDSON ST., NEW YORK 13, N. Y.

Stop those air leaks now. Your Lunkenheimer Distributor has a stock of Cocks, Globe and Angle Valves, Nozzles, Safety Valves, Check Valves, Tips, Nipples and other fittings for your needs. *Write for Circular No. 587 and enlarged copy of air leak chart, suitable for posting.*

Fig. 1840
Air Nozzle
Available with
various tips.

Fig. 1227
Pop Safety Valve
for Air

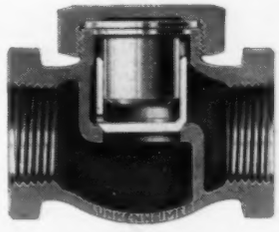
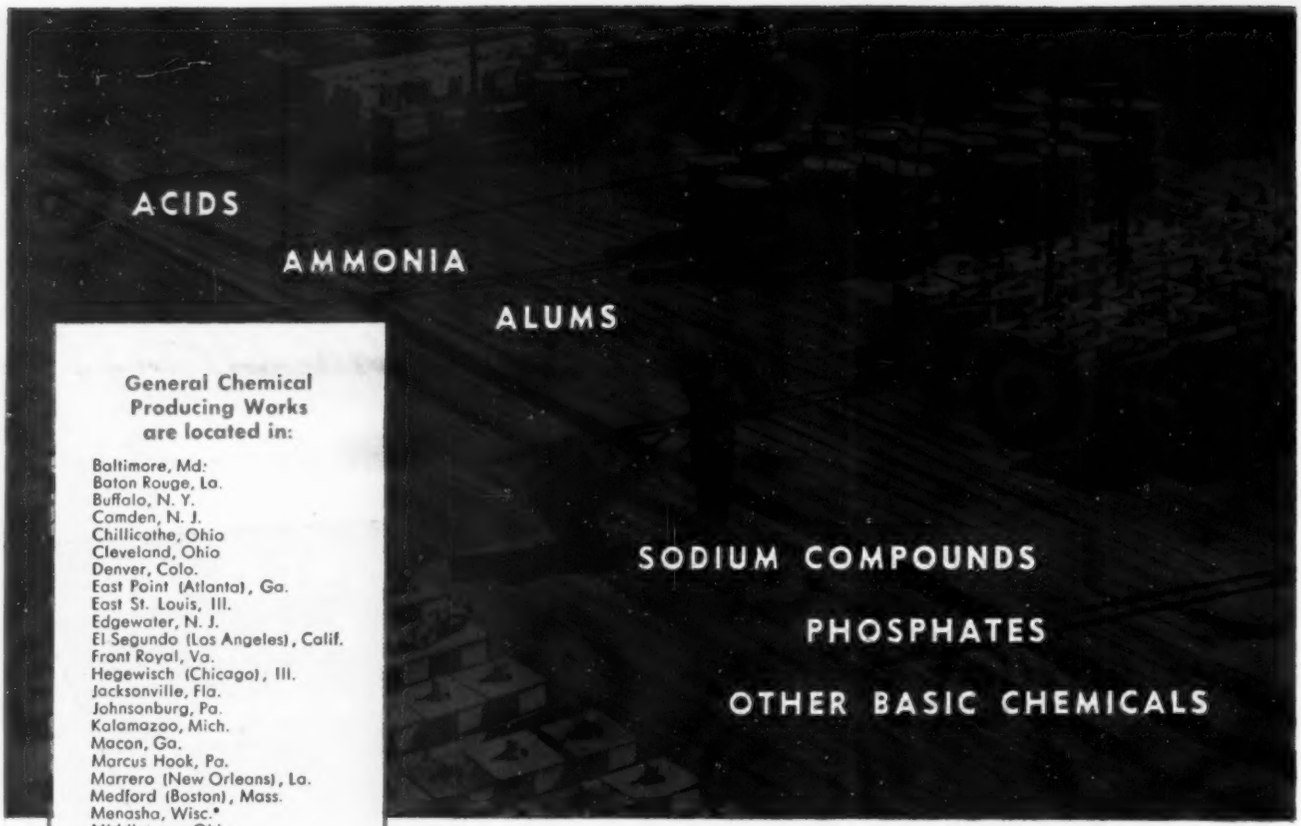


Fig. 1616
Air Compressor
Check Valve...
Hollow Stainless
Steel Disc



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North Claymont, Del.
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Minneapolis, Minn.
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*General Chemical Company, Inc.

BASIC CHEMICALS

FOR AMERICAN INDUSTRY

From Coast to Coast...extensive stocks of

GENERAL CHEMICAL BASIC INDUSTRIAL CHEMICALS

"RIGHT NEXT DOOR TO YOUR PLANT"

To serve America's chemical consumers most effectively, General Chemical has a chain of 16 regional distributing Stations and 33 producing Works from coast to coast. Each is a strategic supply center carrying extensive stocks of General's basic chemicals packaged in carboys, drums, cases, barrels or bags for prompt delivery.

One of these 49 supply centers listed here serves your territory. By taking full advantage of its facilities, you can make it a reliable auxiliary storeroom "right next door to your plant"... ready to fill your regular month-to-month *or emergency* requirements promptly at all times.

Arrange for your requirements now by phoning or writing the nearest General Chemical Office below.

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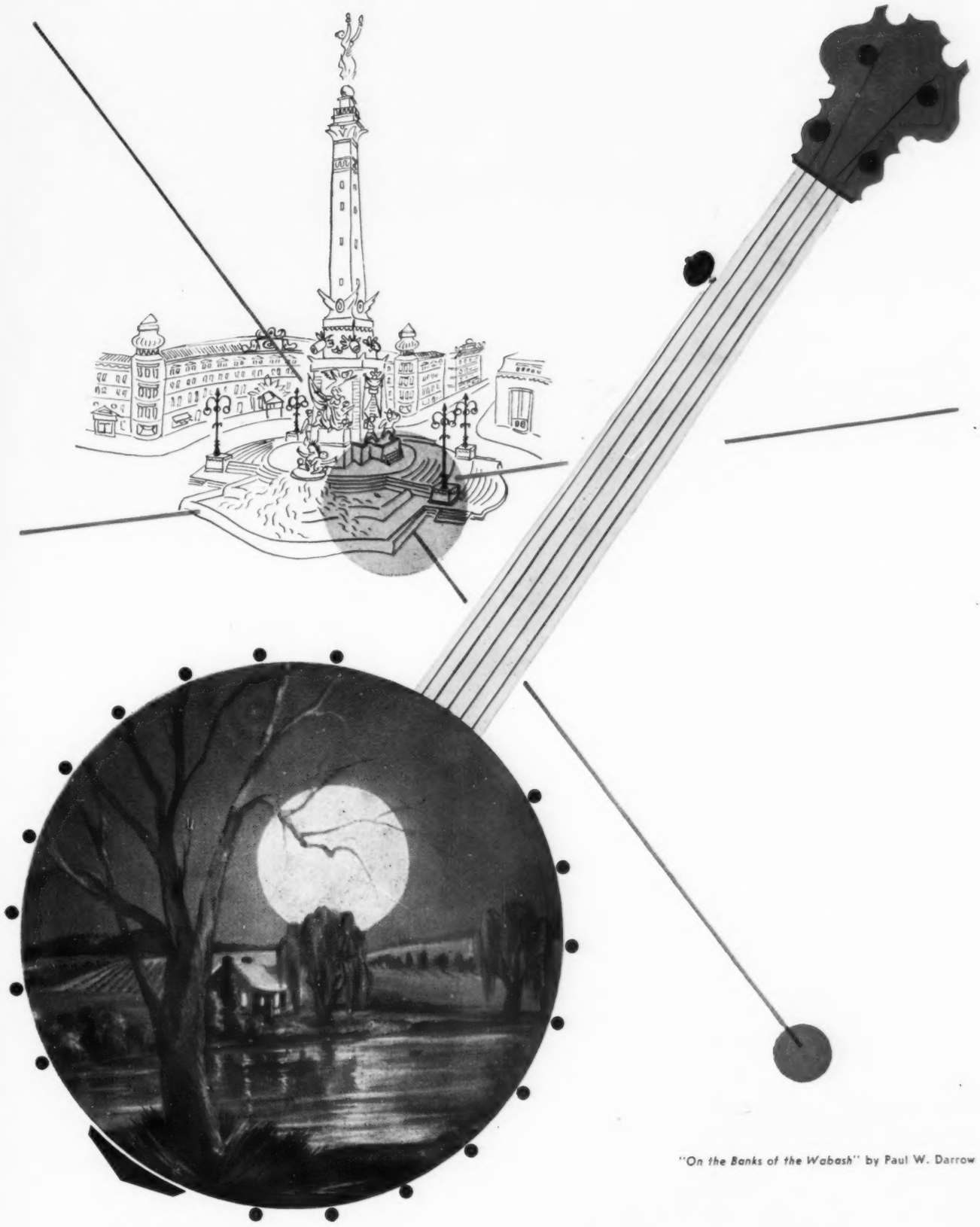


"On the Banks of the Wabash" by Paul W. Darrow

CONTAINER CORPORATION OF AMERICA

MODERN TEXTILE PACKAGING

A BUYING GUIDE FOR ABRASIVES

ABRASIVE PROBLEM:

How does Grinding and Sanding Efficiency continue to improve?

ANSWER BY

CARBORUNDUM
TRADE MARK

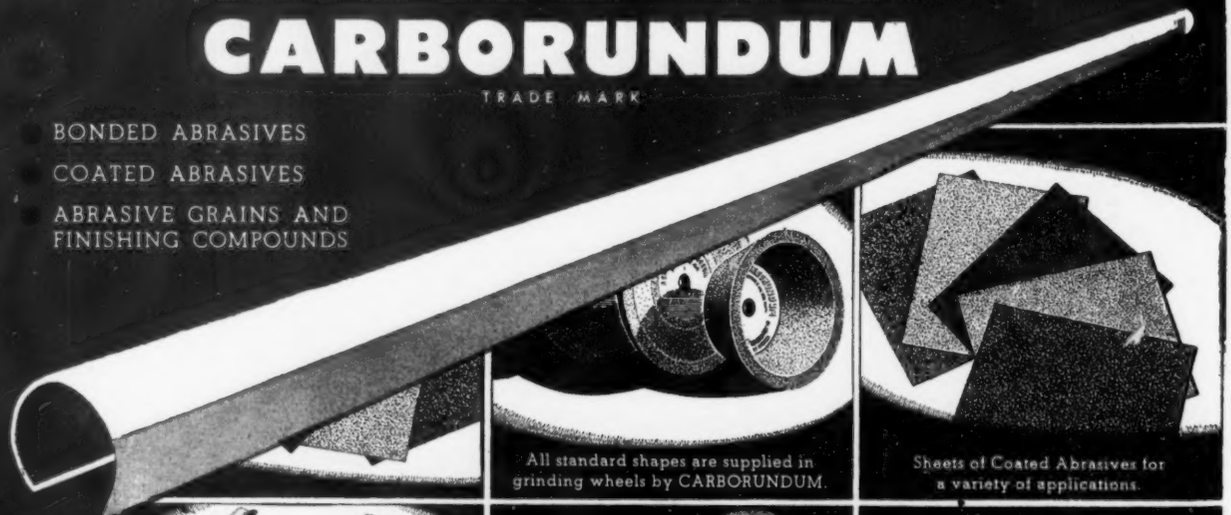
Through a continuing program of research, The Carborundum Company is constantly developing uniform abrasive products. Products that cut faster and cooler, last longer, improve finish and in other ways add to grinding and sanding efficiency.

Accomplishments of this program are well known. To the users of abrasive products they are assurance that abrasives by CARBORUNDUM are in the forefront of technical progress. It is for this reason so many manufacturers, noted for production efficiency, prefer abrasives by CARBORUNDUM. The Carborundum Company, Niagara Falls, New York.

A Good Rule for Good Grinding...CALL IN

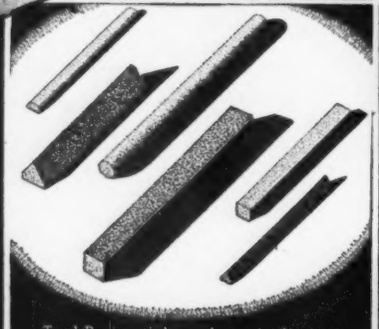
CARBORUNDUM
TRADE MARK

- BONDED ABRASIVES
- COATED ABRASIVES
- ABRASIVE GRAINS AND FINISHING COMPOUNDS

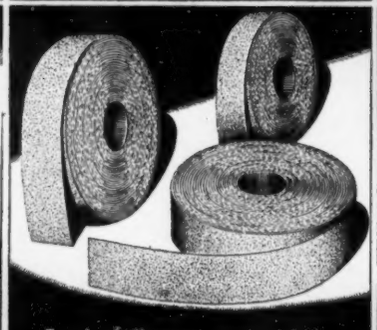


All standard shapes are supplied in grinding wheels by CARBORUNDUM.

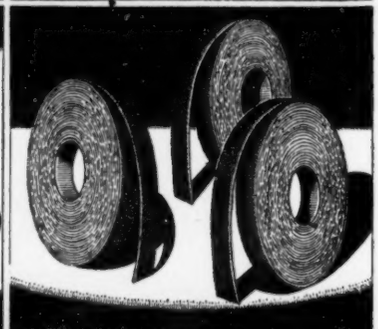
Sheets of Coated Abrasives for a variety of applications.



Tool Room sticks and stones that cut fast, last long, and hold their form.



Texalox roll covering grips fabrics firmly, surely but gently.



A fillet cloth that assures sharp economical grinding of card clothing.

"Carborundum" is a registered trademark which indicates manufacture by The Carborundum Company.

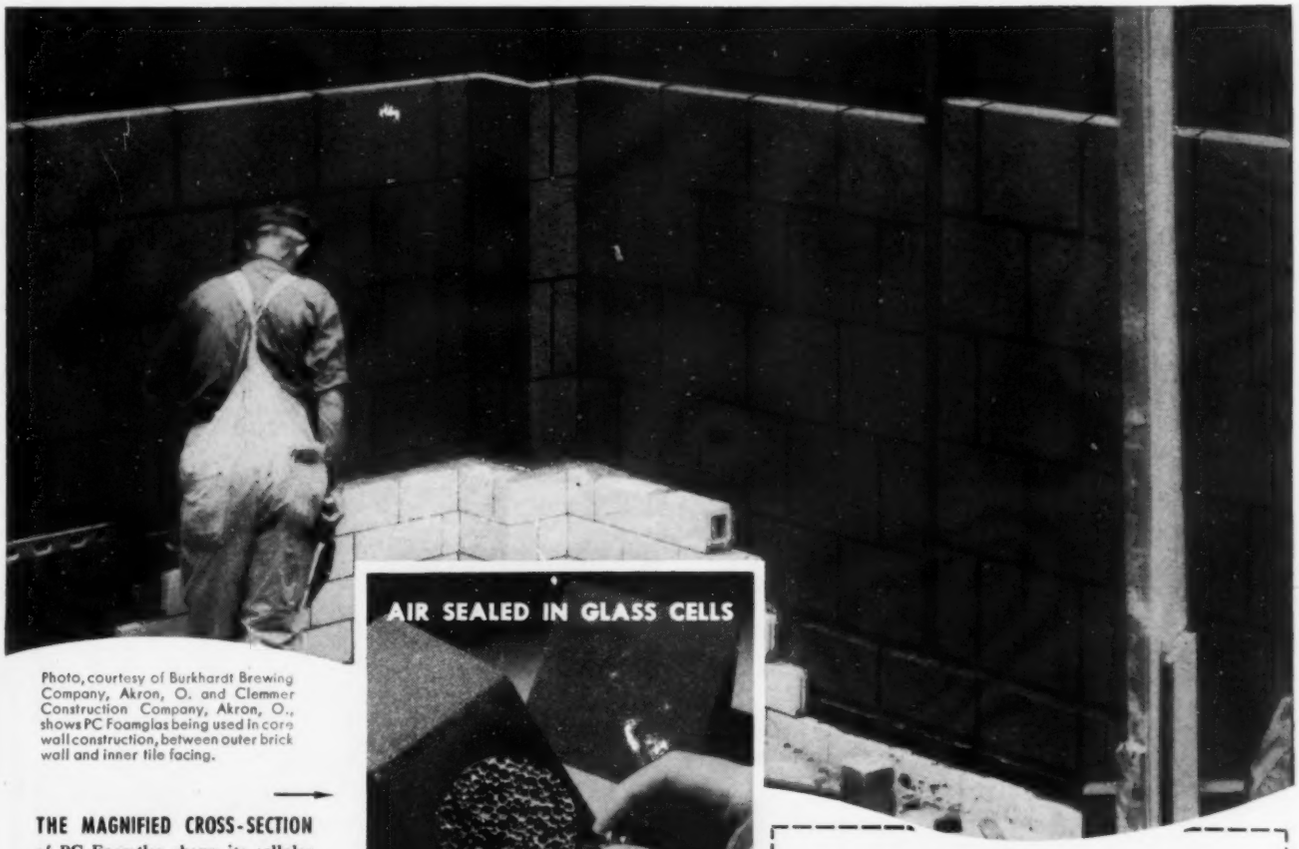
NOW you can insulate for good with Foamglas

● Many prominent concerns have deferred insulation programs until they could get PC Foamglas. Now—with our production doubled—all orders for Foamglas can be delivered promptly.

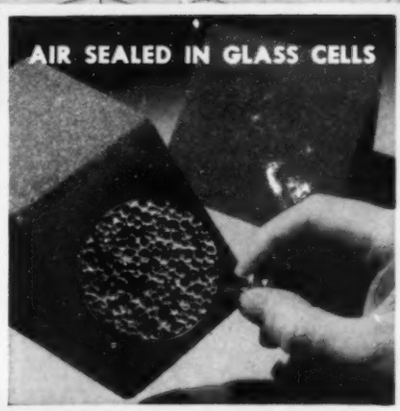
Foamglas is the only material of its kind. Big, rigid blocks are composed of millions of minute, closed, air-filled glass cells. Resistant to vapors, fumes and acid atmospheres—because it is glass—PC Foamglas retains its original insulating value *permanently* when installed according to our specifications and recommendations.

Review your insulation requirements as of today, for walls and ceilings, roofs and floors. If maintaining desired temperatures in your mill involves special problems, our technical staff will be glad to discuss them with you. Meanwhile you can get full information on customary uses of PC Foamglas from our recently published literature. Send the coupon for your free copies—today. Pittsburgh Corning Corporation also makes PC Glass Blocks.

When you insulate with FOAMGLAS . . . you insulate for good!



Photo, courtesy of Burkhardt Brewing Company, Akron, O. and Clemmer Construction Company, Akron, O., shows PC Foamglas being used in core wall construction, between outer brick wall and inner tile facing.



THE MAGNIFIED CROSS-SECTION

of PC Foamglas shows its cellular structure . . . glass bubbles solidified into big, strong, rigid blocks. In the millions of cells of glass-enclosed air, lies the secret of its insulating value.

PITTSBURGH ® PC CORNING **FOAMGLAS INSULATION**

FOR ADDITIONAL INFORMATION SEE OUR INSERTS IN SWEET'S CATALOGS.

Pittsburgh Corning Corporation
Room 464-8,632 Duquesne Way
Pittsburgh 22, Pa.

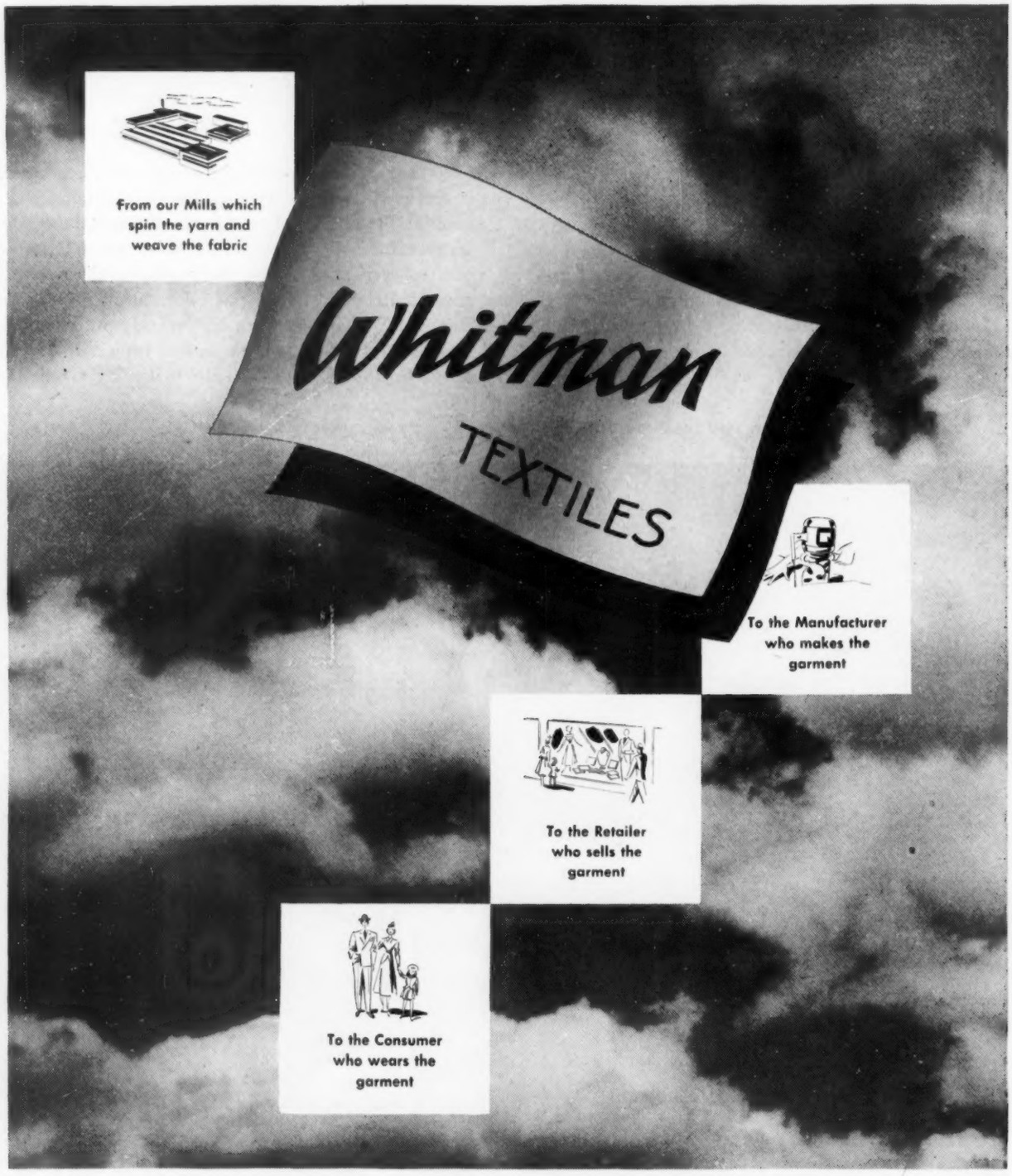
Please send me without obligation, your FREE booklets on the use of PC Foamglas insulation for:
Roofs_____ Walls_____ Floors_____

Name_____

Address_____

City_____ State_____

All along the Line...the Name Whitman is a Symbol of Quality in Textiles


From our Mills which spin the yarn and weave the fabric
Whitman
TEXTILES
To the Manufacturer who makes the garment
To the Retailer who sells the garment
To the Consumer who wears the garment

WILLIAM *Whitman* COMPANY, INC.

GENERAL OFFICES: 261 FIFTH AVENUE, NEW YORK 16, N.Y.

Cotton & Rayon Fabrics Division, 40 Worth St., New York 13, N.Y.

BOSTON: 78 Chauncy Street • CHARLOTTE: Commercial Bank Building • PHILADELPHIA 1420 Walnut Street
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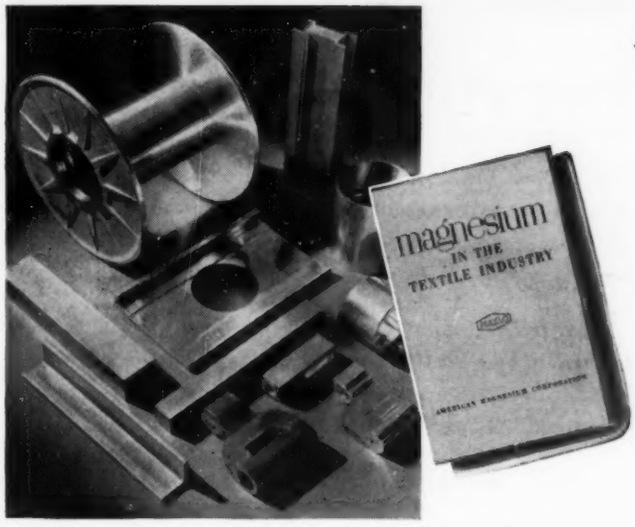
STOP

Not even a breakfast table—nor two walls—could stop a buzz saw that ripped loose from its moorings recently in a Florida town. The saw sliced through the wall, the breakfast table, and buzzed out the opposite wall.

START

One man alone can keep a car moving after it's started moving, but it often takes two or three men to get it rolling. It's the starting that needs the extra push.



FREE: "Magnesium in the Textile Industry", the booklet that contains information on magnesium's applications to the textile industry; what it can do to cut costs, where and how you can buy American Magnesium Products.

MORAL:

Stopping or starting, *inertia* must be overcome. And in moving objects such as high-speed reciprocating parts of textile machinery, inertia of heavy parts means more wear, more vibration, more repairs. ***Here's where American Magnesium can help:*** 35% lighter than aluminum, 75% lighter than steel, it can reduce vibration, avoid costly repair or replacement—and use less power. Ask your builder to specify lightweight American Magnesium to reduce wear and save power costs. ALUMINUM COMPANY OF AMERICA sales agent for American Magnesium Products, 1704 Gulf Bldg., Pittsburgh 19, Pennsylvania. Sales offices in principal cities.

MAGNESIUM MAZLO Reg. U.S. Pat. Off. PRODUCTS

AMERICAN MAGNESIUM CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA

Inside Facts

. . . increase dryer efficiency

ElectroniK control boosts production

Precision temperature control of dryers with the ElectroniK Instrument has proven even more advantageous than expected.

The ElectroniK Controller has made possible the elimination of baking and color change due to dryer operation. More important, it has improved finishing operations—provided for far better shearing.

The installation, shown above, at the Wyandotte Mills, Waterville, Maine, provides continuous dryer control with a switch for checking the all important temperature gradient throughout the dryer. These "inside facts" enable the operator to keep the dryer at top efficiency. Conditions caused by a slipping fan belt or improperly adjusted dampers are quickly detected. A convenient knob provides for easy changes in temperature control for goods of varying weight.

Add up the economies of higher production, better finishing and less rejectable goods. These economies can be realized in your mill at low cost with Brown ElectroniK Dryer Control.

Write for complete information

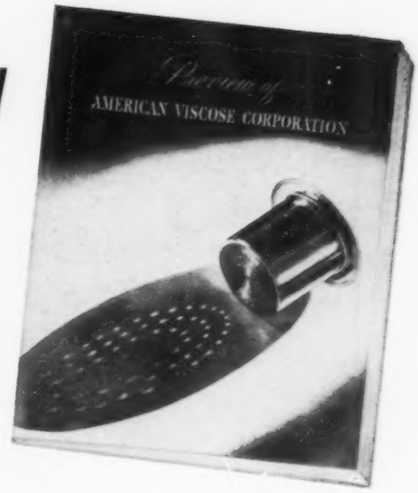
THE BROWN INSTRUMENT CO., 4492 WAYNE AVE., PHILADELPHIA 44, PA.
DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR CO.
Offices in principal cities of the United States, Canada and throughout the world

BROWN *Advanced Instrumentation* **FOR BETTER PROCESSING**
Product of MINNEAPOLIS **Honeywell**

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N. Y. JUNE, 19

Booklet designed to attract College Graduates to Rayon Industry



American Viscose believes that the continued success of any industry is directly dependent on the development of its future leaders. In a highly technical field such as rayon, that means persuading the best of the graduates of the country's leading engineering colleges to make rayon their career.

To further this policy Avisco is carrying out a College Recruitment Program. One of the tools used has been the book "Preview of American Viscose"—a new edition of which is just off the press.

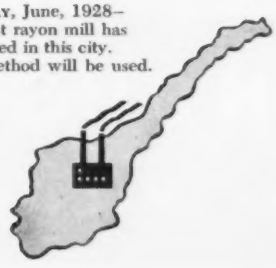
Liberally illustrated, the book unfolds a panorama of the making of rayon. Many things a young man needs to know in order to visualize his place in the industry is touched upon. Its record of growth, its financial stability, its prospects are established. The different departments necessary to the functioning of a large producer, such as American Viscose, are described briefly with a mention of the skills required by each. The American Viscose Employee Benefit Program is explained.

Because "Preview of American Viscose" gives such a complete picture of the making of rayon, its circulation is not being restricted to prospective graduates. Anyone interested in the rayon industry will find it stimulating reading. Copies are available on request.

RAYON 20 YEARS AGO

MARCUS HOOK, June, 1928—The Viscose Company has developed a new, subdued luster rayon yarn called "Dulesoo."

RYGGE, NORWAY, June, 1928—Norway's first rayon mill has been established in this city. The Viscose method will be used.



MAKE USE OF *Avisco*® 4-PLY SERVICE

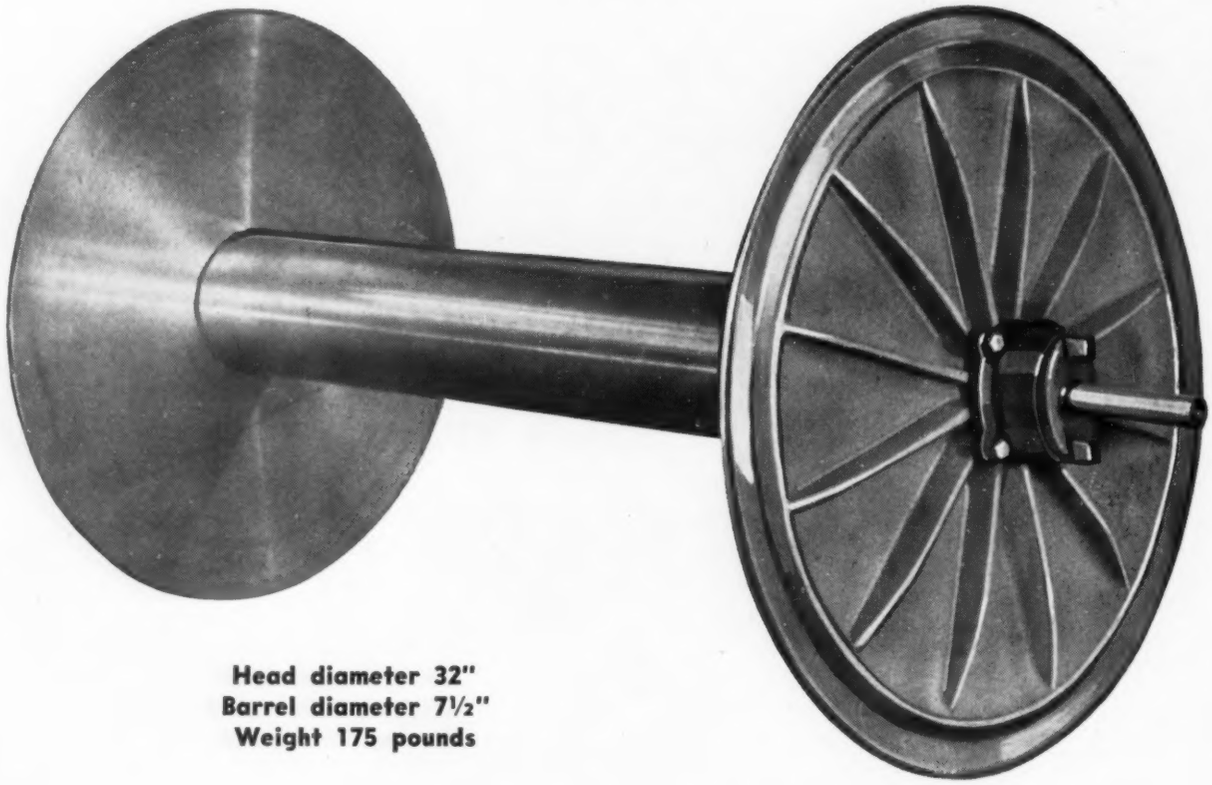
To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN-VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.



Head diameter 32"
Barrel diameter 7½"
Weight 175 pounds

IMPORTANT FACTS

For All Buyers of
Textile Weaving Equipment

Let Hayes accurate, precision-built beams reduce costs and down-time in your mill.

Hayes well-balanced aluminum section beams run at top speed, do not warp and have practically no spread of heads—**and are half the weight of wood and steel beams.**

The use of Hayes large or regular size, light weight, polished, aluminum, true-running, rustproof loom beams contribute to better weaves, less rejects and fewer stops.

Hayes 32" diameter head beams give you 80% more yarn capacity than 24" diameter beams.

Hayes now offers this new type, well designed, and expertly manufactured textile equipment at astonishingly low prices. Ninety days delivery.

Write, phone or wire your requirements

HAYES INDUSTRIES, INC.

JACKSON, MICHIGAN, U. S. A.

Let this great new picker save you money 4 ways!

STEEL-HIDE

By Graton & Knight Combines Long Life With Amazingly Smooth Performance

HERE'S WHAT STEEL-HIDE CAN DO FOR YOU:

- **CUT OPERATING COSTS . . .** STEEL-HIDE combines longer life with smoother operation. Shock absorption tremendously improved. Laminated rawhide leather nose is accurately drilled to receive shuttle spur. Boxing problems are greatly reduced. STEEL-HIDE is interchangeable right and left hand, cutting inventory to a minimum.

- **REDUCE "SECONDS" . . .** rebound controlled . . . no kinky filling . . . because picker maintains true alignment on stick due to patented loop construction: leather cushion on front absorbs shocks — rubber cushion on back insures snug fit — steel lip prevents rocking.

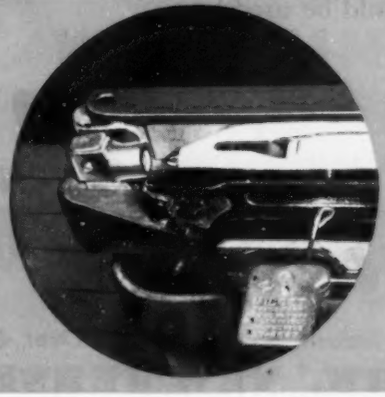
- **INCREASE YARDAGE . . .** because exclusive, steel-and-leather construction gives longer loom service . . . fewer shutdowns. Heavy gauge steel sheath gives extra strength . . . leather gives perfect resiliency.

- **REDUCE MAINTENANCE . . .** because all parts associated with picker action last longer. Gives longer shuttle life. Stick breakage is reduced . . . shoe wear is minimized.

Order a test lot from your Graton & Knight distributor . . . Watch STEEL-HIDE outperform any other picker you've ever used! Designed to fit all Draper X Series looms using broad-faced pickers with 1" x 19/32" sticks.

GRATON & KNIGHT COMPANY
327 Franklin Street, Worcester 4, Mass.

STEEL-HIDE . . . its longer life is locked in steel



Loom tests show that STEEL-HIDE cuts operating costs, reduces cloth spoilage, increases yardage and reduces maintenance.

LATEST ADDITION TO THE

GRATON AND KNIGHT

ORANGE LINE LOOM LEATHERS

A complete line manufactured by the world's largest manufacturer of industrial leathers

STOP

COLOR BLEEDING

with *CULOFIX

Preserve crisp detail and contrast of prints by using time-tested Culofix as an after treatment.

Kill bleeding troubles no matter where they occur—in the finishing bath—batching up after dyeing—in cross dyeing, etc.

Improve water fastness of direct colors and impart a very desirable soft, full finish at the same time, thus eliminating an extra finishing operation. (Where no softening action is needed, Culofix L should be used.)

If fastness to water or prevention of color migration is essential to your direct color dyeings, write for Technical Service Bulletin #204-106.1. Our technical staff is at your service without obligation.

*REG. U.S. PAT. OFF.

Arkansas Co. INC.

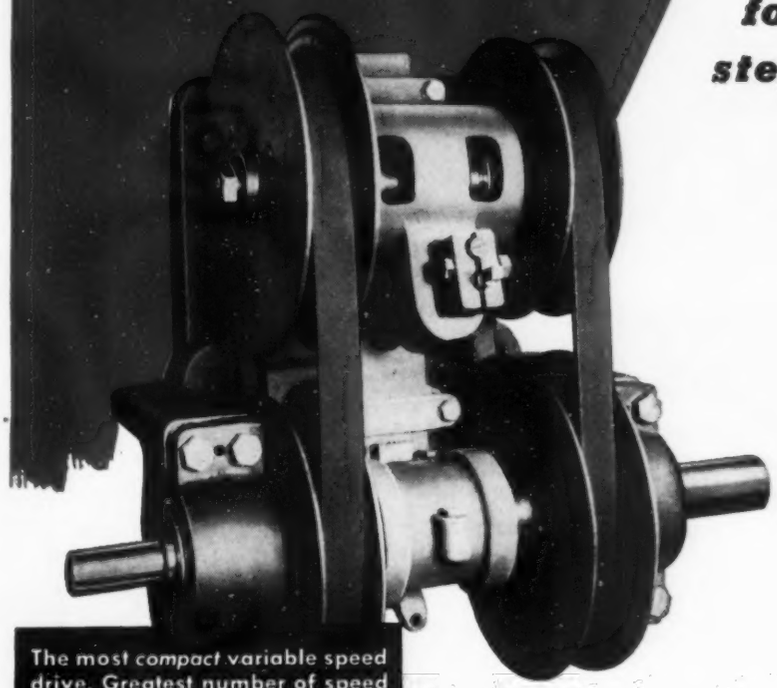
Manufacturers of Industrial Chemicals for Over 40 Years

NEWARK, NEW JERSEY

THE GOOD RIGHT HAND OF INDUSTRY

Change of Pace

for each job run... steplessly, instantly



The most *compact* variable speed drive. Greatest number of speed variations in one machine.

With a Worthington Allspeed Selector on your machine drive, you have a broad choice of speeds — all in one "package". You can vary the speed for each individual job run — without shutdown for speed change.

What's the best speed for the material? What's your desired production rate? How much can the operator handle? Whatever the answer, you can set the Allspeed Selector accordingly — in an instant.

IMMEDIATE DELIVERY

Call on your Worthington distributor — your local "good right hand of industry" — listed in Thomas' Register under "Drives". He has ample stocks of Worthington Allspeed Selectors supported by factory stocks. Send coupon for free bulletin on Worthington Allspeed Selectors.

WORTHINGTON

MERCHANDISING DIVISION

The Good Right Hand of Industry

PUMPS: centrifugal, power, rotary, steam

COMPRESSORS: horizontal, radial, vertical

POWER TRANSMISSION: sheaves, V-belts, variable speed drives

Worthington Pump and Machinery Corp.
Merchandising Division
Harrison, New Jersey

Send latest bulletin on Worthington Allspeed Selectors.

Name.....

Company.....

Address.....

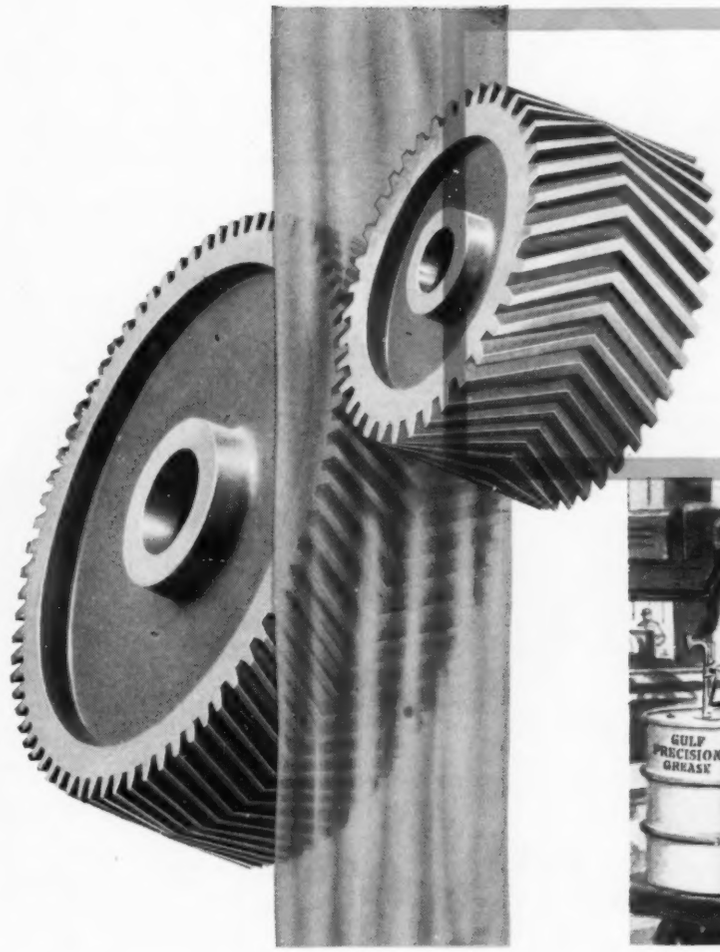
DEPT. 1815B

Many cotton mills have found it profitable to consult Corn Products textile laboratory at Greenville, South Carolina. The services of our technicians are offered textile manufacturers without obligation.

CORN PRODUCTS SALES CO.

Greenville, S. C.

Atlanta, Ga. *Greensboro, N. C.*



How much does the best lubrication cost?

"Nothing," say many plants. "It's more than paid for by savings in maintenance costs."

THIS statement has real meaning when the best oils are selected and properly applied.

"It has been real economy for us to invest in Gulf quality lubricants," says the Superintendent of a large aircraft engine plant. "With better lubrication, we have been able to maintain a higher rate of production and at the same time make sizable savings in maintenance costs. These benefits more than pay the entire bill for the better oils we are using."

As a part of your continuing effort to reduce costs and improve production, ask a Gulf Lubrication Engineer to assist you in installing improved lubrication. In his broad experience, he has found literally dozens of ways to save money and increase efficiency through the proper selection and application of better oils and greases.

This kind of lubrication service has a real dollar and cents value to you. Write, wire, or phone your nearest Gulf office today.

Gulf Oil Corporation · Gulf Refining Company

Division Sales Offices:

Boston · New York · Philadelphia · Pittsburgh · Atlanta
New Orleans · Houston · Louisville · Toledo

GULF INDUSTRIAL LUBRICATION

Look to Gulf for Quality Lubricants
Expert Lubrication Engineering Service

INDIVIDUAL SLUB CATCHER SETTINGS FOR FOSTER MODEL 57 DOUBLERS

The combination tension and slub catching device now used on Foster Model 57 Doublers permits individual settings for the slub catcher blades. Each slub catcher gate may be individually opened or closed to any desired setting, independent of adjacent slub catchers. The screws controlling this setting are easily reached and adjusted. In the above back view photo these screws are shown clearly, as well as the slub catcher gates at exaggerated settings which emphasize the ease and amount of opening and closing that is possible.

This exclusive Foster feature permits doubling of coarse and fine yarns together with exact control of inspection at each bobbin. It provides accurate tension and the finest slub catching for Foster one process doubling.

The Foster Model 57 can be equipped for one process doubling (with slub catchers), drawing direct from bobbins, or for two process doubling, drawing from cones which have been wound and inspected on the Foster Model 102. Which method is better depends on the requirements of each mill.

The Model 57 can be built to wind either 6" or 7" traverse tubes, and exceptionally high speeds are possible without loss of quality.

Here are some more features which contribute to this superior doubling:

NO SHARP BENDS IN THREAD LINE. Minimum yarn strain.

NO JUMPING OFF DOUBLING ROLL. Guard on thread roll.

QUICK-ACTING STOP MOTION. Enough yarn left for single end piecing.

EFFICIENT BRAKE. Contacts whole tube from underneath.

Machine Arranged for one Process Doubling

CIRCULAR A-90 ON REQUEST

FOSTER MACHINE CO., Westfield, Mass., U. S. A.

SOUTHERN OFFICE — JOHNSTON BUILDING, CHARLOTTE, N. C.
CANADIAN REPRESENTATIVE — ROSS WHITEHEAD & COMPANY, LIMITED, UNIVERSITY TOWER BUILDING
660 STE. CATHERINE STREET WEST, MONTREAL, QUEBEC
EUROPEAN REPRESENTATIVE — MUSCHAMP & TAYLOR, LIMITED, MANCHESTER, ENGLAND

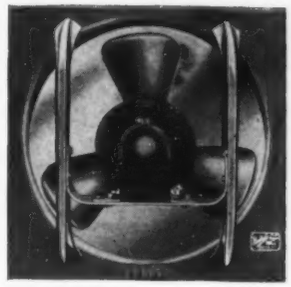
YES-*Fresh Air Helps*

PRODUCT QUALITY- AND PRODUCTION

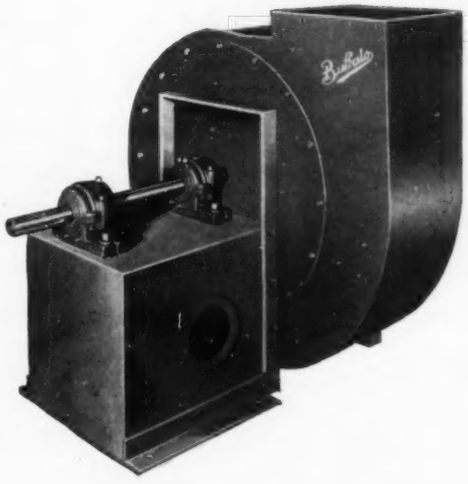
● Your process—like your employees—needs a continuous supply of fresh air to function efficiently and economically. Below are shown two "Buffalo" Fans that are doing just this job in a good many textile plants—and can give the same dependable, low-cost service in your plant. Your trained "Buffalo" representative is ready to give sound advice on your particular "fresh air" problem. Or write us.

"BUFFALO" PANEL "BREEZO" FANS

Here is extremely low cost local ventilation—ideal for rooms or small areas where you need to draw out stale air constantly. "Breezo" Fans are easily installed—use negligible power—need practically no maintenance—are husky for years and years of heavy-duty service. 8", 12", 16", 18", 20", and 24" sizes to suit your need. *Write for Bulletin 3222-F.*



"Buffalo" fans for Industry



"BUFFALO" INDUSTRIAL EXHAUSTERS

Your most economical way of removing dust, fogs, vapors, fumes, etc. All-welded, rivetless housing and rotor surfaces provide high efficiencies—greater strength — lighter weight. With Type "AW" Wheel for airborne particles; or "MW" Wheel for removing any materials a pneumatic system will hold.

Write for Bulletin 3576.

BUFFALO FORGE COMPANY

175 MORTIMER STREET BUFFALO, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Branch offices in all Principal Cities

FANS by "Buffalo"

EQUIPMENT FOR

- ★ VENTILATING
- ★ HEATING
- ★ COMFORT COOLING
- ★ PROCESS COOLING
- ★ AIR TEMPERING
- ★ AIR WASHING
- ★ EXHAUSTING
- ★ BLOWING
- ★ FORCED DRAFT
- ★ INDUCED DRAFT
- ★ PRESSURE BLOWING
- ★ CLEANING
- ★ DRYING

CUTTING AIR COSTS IN EVERY BRANCH OF INDUSTRY

Consider the sea-side manners of fashion fabrics containing *Lanese**

Lanese, Celanese' synthetic staple fiber, contributes inimitable characteristics to modern sportswear fabrics. A dominant proportion of Lanese provides a high degree of wrinkle-resistance...shape retention...quick drying facility. These advantages are provided by Lanese itself...not by extensive finishing operations.

Lanese makes important contributions to all kinds of fabrics. It imparts responsive draping and tailoring qualities. Used with other fibers, interesting cross-dyes can be achieved. An infinite variety of texture and weaves can be obtained. Decorative fabrics, men's wear fabrics, fabrics for women's and children's apparel...all are provided with new beauty and practicality through the use of Lanese.

*Celanese** *Lanese**

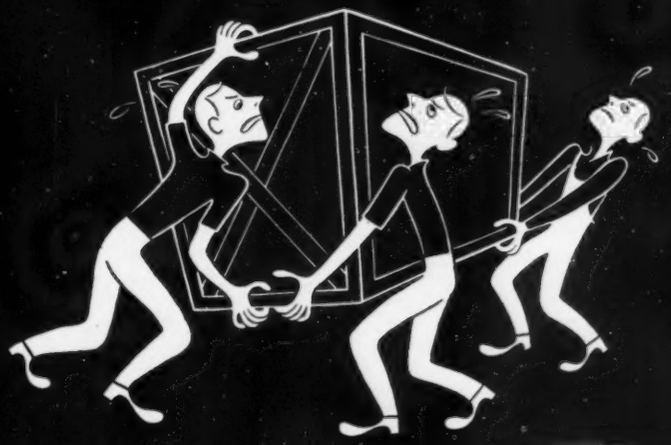
SYNTHETIC STAPLE FIBER

*Reg. U. S. Pat. Off.

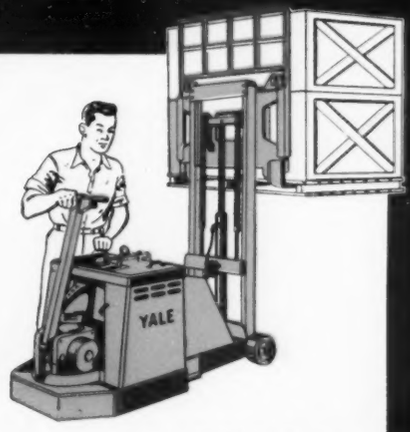
CELANESE CORPORATION OF AMERICA, 180 MADISON AVENUE, NEW YORK 16, N. Y.

Branch Offices: CAMDEN, N. J., 300 Broadway · CHARLOTTE 2, 1106 Liberty Life Building · BOSTON 10, 140 Federal Street

GET A TRUCK



A YALE TRUCK



Why use muscles to do your moving and lifting? One man and a Yale Worksaver Electric Truck can do the job easier, faster, safer . . . save you some real money. Capacities of Yale Worksavers run from 2,000 to 6,000 lbs.—7 styles.

See your local telephone directory for Yale representative or send for latest catalog—M-T. The Yale & Towne Mfg. Co., 4588 Tacony Street, Philadelphia 24, Pa.

TOOLS THAT KEEP INDUSTRY "ON THE MOVE"

YALE

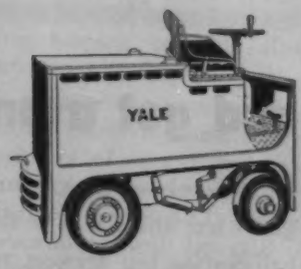
SCALES
HAND AND ELECTRIC HOISTS
HAND LIFT AND ELECTRIC TRUCKS

"ON THE MOVE" WITH YALE

NEW LIGHTWEIGHT HOIST SPEEDY AND RUGGED—The Yale Load King Electric, newest addition to the largest line of hoists in the world, is portable and fast, yet can handle ⅛ to 1 ton loads hour after hour without batting an eye. Lug, trolley and hook types.

YALE OFFERS NEW SCALE LINE—The Load Kings, for the weighing, counting, batching and testing of all kinds of materials. They cut weighing time, give you prolonged accuracy, lowest possible maintenance, increased scale life. With capacities up to 60,000 lbs. Yale Scales meet all industrial needs.

FOR LONG PULLS AND HEAVY LOADS—Inside your plant and out, the Yale Tractor, motive power for trailer trains, is a saver of both time and money. Complete line, with just the rated pulling power you need. Two and four wheel drives. Fixed or automatic couplers.



HANDLING MULTIPLE LOADS—with less effort is routine for Yale Hand Lift Pallet Trucks. Wide range of models. Multi-stroke; mechanical and hydraulic lifts. Capacities up to 6,000 lbs.

You can't draw good sliver out of a hat...

but you can turn the trick with MEDLEY DRAWING!

...and get a uniform, grease-free sliver!

If there is any trick in turning out a uniform, grease-free sliver it is in the Medley sealed-in ball-bearing top drawing rolls with their permanent lubricating feature.

Smooth, even drawing with minimum variation is resulting in more efficient slubbing, roving and spinning in mills using Medley "8 Ends Up" drawing, or the conventional 6 ends up, both employing the now famous Medley *metallic* drawing rolls and the sealed-in ball-bearing top rolls. Designed to give up to 13 inch overall roll settings, Medley Drawing will deliver better sliver from cotton, wool, synthetics, ramie or blends.

Write Medley today. Learn how you can change over to this more efficient drawing. Learn about Medley's Textile Engineering service. A call or a post-card will get you the whole story.

Medley Has It or Medley Will Make It!

The MEDLEY System, Inc.

400 32nd ST., COLUMBUS, GEORGIA

Medley Manufacturing Co., Columbus, Ga. • Gastonia Roller, Flyer & Spindle Co., Gastonia, N. C. • Allan Textile Machine Co., Pawtucket, R. I.

HOW WOULD YOU PRINT THIS PATTERN ON COTTON PIQUE?

Knotty problems were involved in producing this gay dress goods design for Bernard Bernstein Textile Co. First, it was necessary to obtain a smooth, light, wide stripe on a ribbed fabric. Second, close registration with no halos between the stripes, was required. Third, an exceptionally bright yellow and a brilliant green were specified.

Executives of Hartsville Print & Dye Works decided that this was a natural for printing with Aridye Pigment Colors. The formulas used were:

LIGHT BLUE—*9 parts Aridye Blue FC2G 4720, 1 part Aridye Red LDB 4325 cut 1:108 with Aridye Clear 6229.*

PINK—*2 parts Aridye Red FDR, 1 part Aridye Red LDB 4325 cut 1:48.*

GREEN—*2 parts Aridye Green FJB 4410, 1 part Aridye Yellow FY2G 4832 cut 1:2.*

YELLOW—*Aridye Yellow FY2G 4832 cut 1:2.*

After printing, the fabric was dried and then finished on an enclosed tenter. No ageing, soaping, or other aftertreatment was necessary.

Because they are achieving superior results, Hartsville and many other leading printers of cotton and rayon fabrics are making greater and greater use of Aridye Pigment Colors. An Interchem technical representative will be glad to discuss the numerous ways in which they will solve problems for *you*. Write to Interchemical Corporation—Textile Colors Division—Pioneers in Pigment Colors for Textiles—Box 357, Fair Lawn, New Jersey.

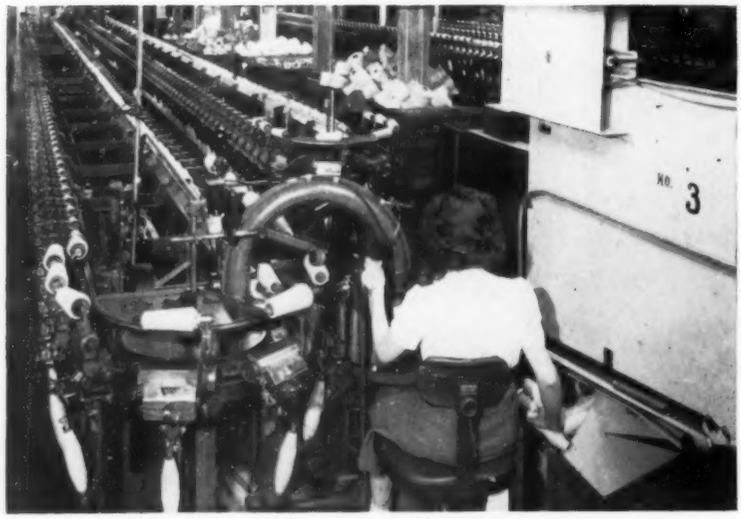
Aridye *Pigment Colors*

CHECK THESE EIGHT ADVANTAGES

arpness of Mark • Exceptional Fastness to Sunlight
iformity of Shade • Fastness to Washing • Bright Colors
conomy • Ease of Application • No Impairment of Hand

INTERCHEMICAL CORPORATION, TEXTILE COLORS DIVISION • FAIR LAWN, N. J. • ROCK HILL, S. C. • PROVIDENCE, R. I.

LEADERS---in the AUTOMATIC WINDING FIELD

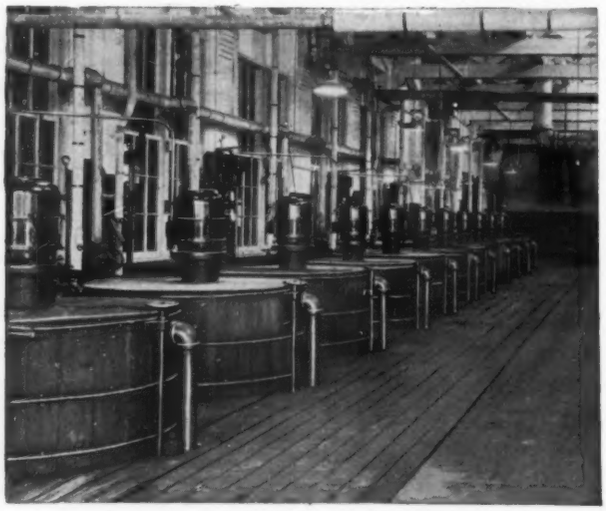


The only Automatic Winder that will wind the standard 6" traverse on cheeses, warping cones, knitting cones, etc.,

Production 900 to 1000 bobbins per hour with one operator.

The only fully automatic loom bobbin winder. The empty supply quills and the full wound quills are handled automatically without attention by the operator.

Production 2000 or more quills per hour per operator; cotton, spun fiber, worsted, linen, paper, and filament yarns.



Dyeing and drying equipment for worsted and cut fiber top and for yarns.

ABBOTT MACHINE COMPANY

WILTON, N. H.

Southern Office ***Greenville, S. C.***

More uses for this "across-the-board" detergent ... it's non-ionic!

HOUGHTON'S

CERFAK 1300

No surface active agent will do *all* cleansing and wetting jobs and do them equally well. But textile chemists know that a non-ionic detergent will have a wider range of applications than will anionic or cationic types.

And they're getting to know Cerfak 1300. This concentrated liquid detergent is a new member of Houghton's Cerfak family. It has not only good detergent ability in all kinds of water, but it is a fast wetting agent, too.

That's why we call Cerfak 1300 an "across-the-board" detergent. And that's why you'll want to get all the data on it. The first step is to write for the new fact-full folder.

E. F. HOUGHTON & CO.

303 W. Lehigh Ave., Phila. 33, Pa.

1301-05 W. Morehead St., Charlotte, N. C.

Now you can Eliminate those Size Kettle Evils... THE SIMS WAY

Stainless Steel Steam Jacketed Size Kettle

Here is the *Stainless Steel* Steam Jacketed Size Kettle in which you *KNOW* how much starch and water is being mixed. No more does water from live steam enter your size through a coil. No longer will you have to wait for your kettle to be lined.

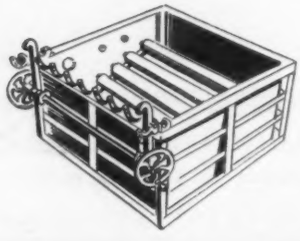
The SIMS Kettle is fabricated from *solid* stainless steel so it can not corrode around where fittings are installed. It is *steam jacketed* to eliminate the need of cooking or storage coils, so the maintenance cost is eliminated. Note that the bottom is slightly *conical* shaped for easy "ashing out" or cleaning. The mixer with its Stainless Steel shaft and propeller, is directly driven.

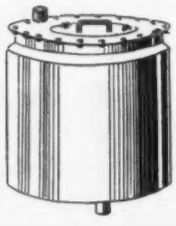
You can COOK or STORE in the same kettle if you like.

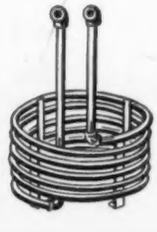
Both quality and workmanship is guaranteed by SIMS. Call us to discuss your problems with you . . . 20 years of "know-how" is at your command.

FABRICATORS **Sims METAL WORKS** SINCE 1928

WEST POINT GEORGIA



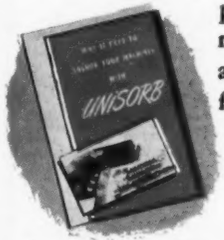


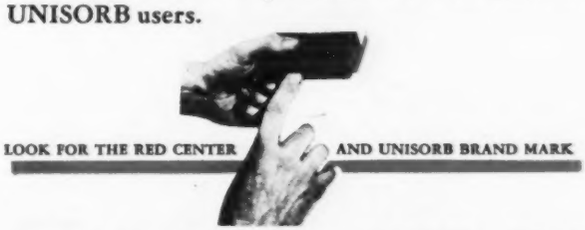


UNISORB pads cost one-half of one per cent of the loom cost. As UNISORB absorbs from 60% to 85% of transmitted vibration — and as it needs no replacement, *or maintenance,* for 5, 6, 7 years or longer, you'll begin to see why it's smart to switch NOW to this proved, modern method of loom mounting. But that's only the beginning . . .

UNISORB is so easy to install that, from this standpoint alone, it obsoletes other methods. No bolts or lag screws are needed — and no drilling of floors. A special cement anchors the UNISORB pads to the machine feet and the floor; permanent set absolutely prevents any riding.

Write for sample today. We'll also be glad to send you a copy of "Why It Pays To Anchor Your Machines with UNISORB" — which illustrates many types of installations and tells, in their own words, the actual experiences of well known UNISORB users.





THE FELTERS COMPANY

210-X SOUTH STREET, BOSTON, MASSACHUSETTS

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PICKER REPAIR PARTS
For IMMEDIATE DELIVERY

We manufacture and keep on hand for immediate delivery a complete stock of repair parts for Kitson pickers. We can also furnish many parts, such as screens, ball bearings, aprons, and beaters, for other pickers.

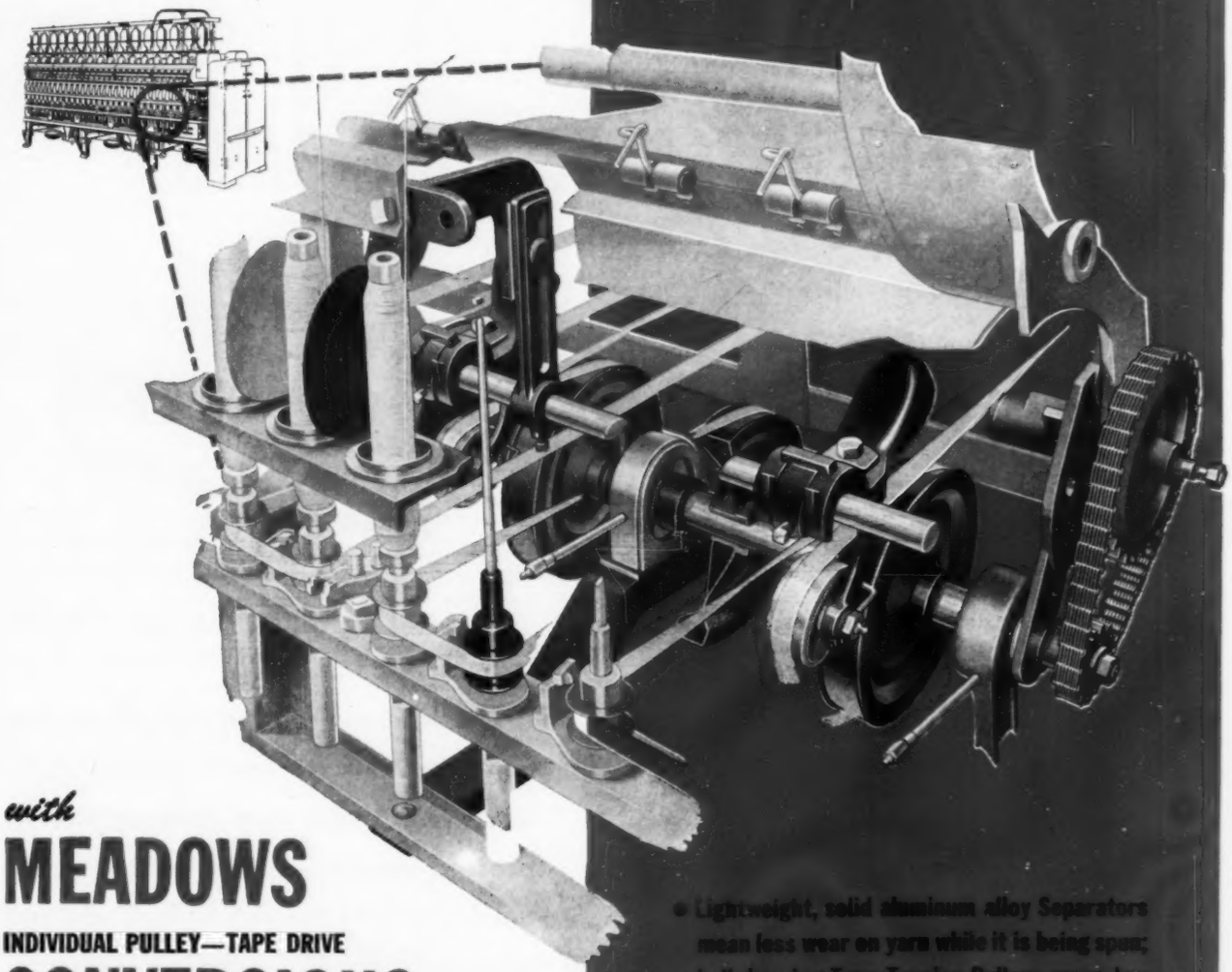
In an emergency, a telephone call or telegram can have the needed repair parts at your plant the day after the order is placed.

Aldrich rebuilt pickers are exactly like new machines, and where it is not feasible to have your own pickers rebuilt, these can be exchanged for similar sections in our warehouse which can be rebuilt for you and installed with little or no interruption to production.

AldricH MachinE

Greenwood **WorkS** South Carolina

New Life for Old Spinning Frames



with

MEADOWS

INDIVIDUAL PULLEY—TAPE DRIVE

CONVERSIONS

Higher speeds can be obtained from old model band drive frames, with uniform twist, better package and more yarn, by installing the Meadows parts shown in black on the phantom drawing above.

Silent chain-drive means less noise and less vibration; individual driving pulleys and high strength ground and polished shafting, mounted on heavy duty ball bearings, means low power consumption, no more cylinder trouble. Works equally well on frames already tape driven.

- Lightweight, solid aluminum alloy Separators mean less wear on yarn while it is being spun; ball bearing Tape Tension Pulleys mean low power consumption; no tapes off due to choked or sticky pulleys.
- We engineer and service each installation; design and manufacture all parts. Let one of our representatives show you how a Meadows Conversion will increase production on your frames.

REPRESENTATIVES

JAMES F. COLEMAN
P. O. Box 1351
Greenville, S. C.

WALTER S. COLEMAN
P. O. Box 722
Salisbury, N. C.

MATTHEWS EQUIPMENT CO.
93-A Broadway
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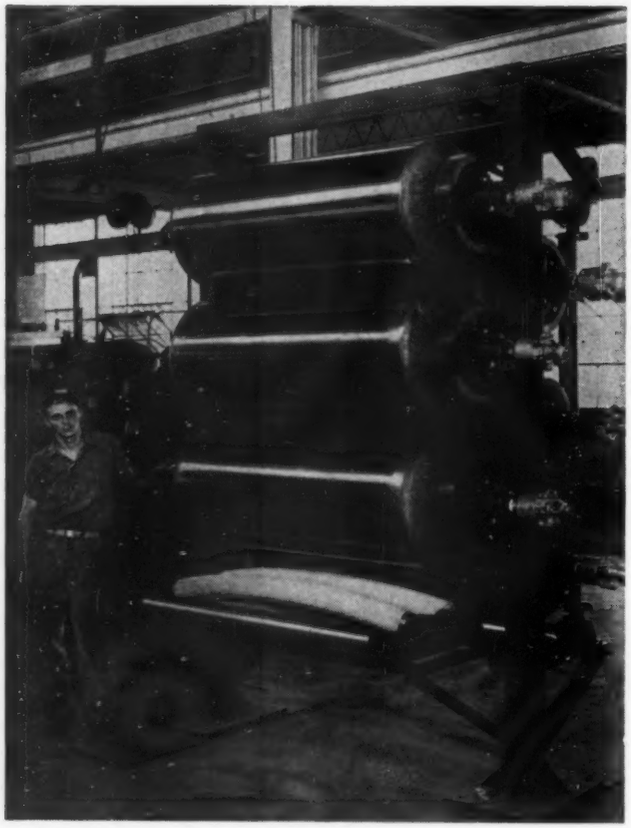
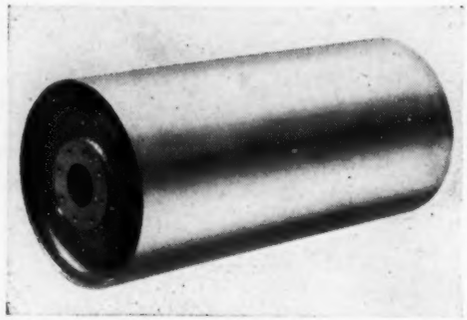
MEADOWS MANUFACTURING COMPANY
ATLANTA, GEORGIA

UNISTEL

STAINLESS STEEL DRY CANS





A Can Dryer is only as good as the individual can.

Unistel cans are rugged all welded construction with heavy gauge stainless steel shells and reverse dished pressed steel head, contructed in accordance with the A.S.M.E. Code and stamped for 35# working pressure. Calculated bursting strength 320# — yet a 50" face can only weighs 215#.

Unistel Can Dryers have sprocket and roller chain transmission; ball bearing journals, both self-aligning, fixed one end—expanding the other end; carrier rolls of stainless steel mounted on ball bearings; frame structural steel with welded base.

Engineers — Designers — and Builders of Back Dryers, Can Dryers, Slashers, Kettles, etc.

UNITED STEEL of AMERICA, INC.

30 ROCKEFELLER PLAZA
NEW YORK 20, N. Y.

Canadian Representatives: United Steel Corporation Ltd. of Canada, Toronto

NOPCO PRESENTS

"UNISIZE"

AMAZING NEW 6-IN-1 SIZE FOR ACETATE AND VISCOSE RAYON WARPS

1 Product 6 Functions

As a
1 Binder
2 Softener
3 Penetrant
4 Lubricant
5 Humectant
6 Defoamer

EASY TO USE—JUST MIX WITH WATER

"UNISIZE" is a *complete*, one-product size for Acetate and Viscose Rayon warps of all constructions . . . its unique, balanced properties provide advantages far surpassing those of conventional warp sizing compounds . . . its *simplicity*, *effectiveness* and *economy* have won unanimous and enthusiastic approval from users.

WHAT "UNISIZE" IS

"UNISIZE" is *chemically* a synthetic, proteinized, water-soluble polymer; *physically* a light tan free-flowing granulation—a single, *one-product* size which performs *six* essential sizing functions.

ADVANTAGES OF "UNISIZE"

SIMPLE, READY TO USE you waste no time predissolving raw materials . . . you need no complicated formulas. "UNISIZE"—a *model of simplicity*—affords the big advantage of a *single* product replacing the many complex mixes of the past. *Extremely soluble*, "UNISIZE" dissolves quickly and completely without gelling or lumping.

CLEAR-CUT FORMULATION you simply weigh the required amount of "UNISIZE" . . . 25 lbs. for Viscose warp, 50 lbs. for Acetate . . . and add it to 100 gallons of water heated to 180° F. Then, stir slowly for 8 minutes—run in quetch at 150° F.

EVEN DISTRIBUTION ON WARP in the quetch, there's no foaming, scumming or separation to prevent even distribution of the size on your warp. The warp comes off the last can without sandy hand—*smooth* and *firm*.

SUPERIOR BOND, FLEXIBLE FILM creating a *strong* bond, forming a *flexible*, *non-tacky* film, "UNISIZE" gives you maximum filament protection . . . eliminates taping . . . prevents sticking on drying cans.

ANTISTATIC PROPERTIES by preventing static during the *slashing* operation, "UNISIZE" eliminates banding. These same properties also reduce static during *weaving*.

UNIFORM SIZING "UNISIZE" will give you uniform sizing, warp after warp . . . the result of Nopco's rigid control through every step of its manufacture.

EASE OF BOIL-OFF "UNISIZE" scours out readily during normal boil-off procedure. No enzymes are required.

FINALLY, "UNISIZE" GIVES YOU FINER WARPS with smoother ends . . . better conditioned for better weaving. ECONOMICAL SIZING . . . on a performance basis, "UNISIZE" costs you far less than conventional sizing treatments . . . you'll save in both time and labor.

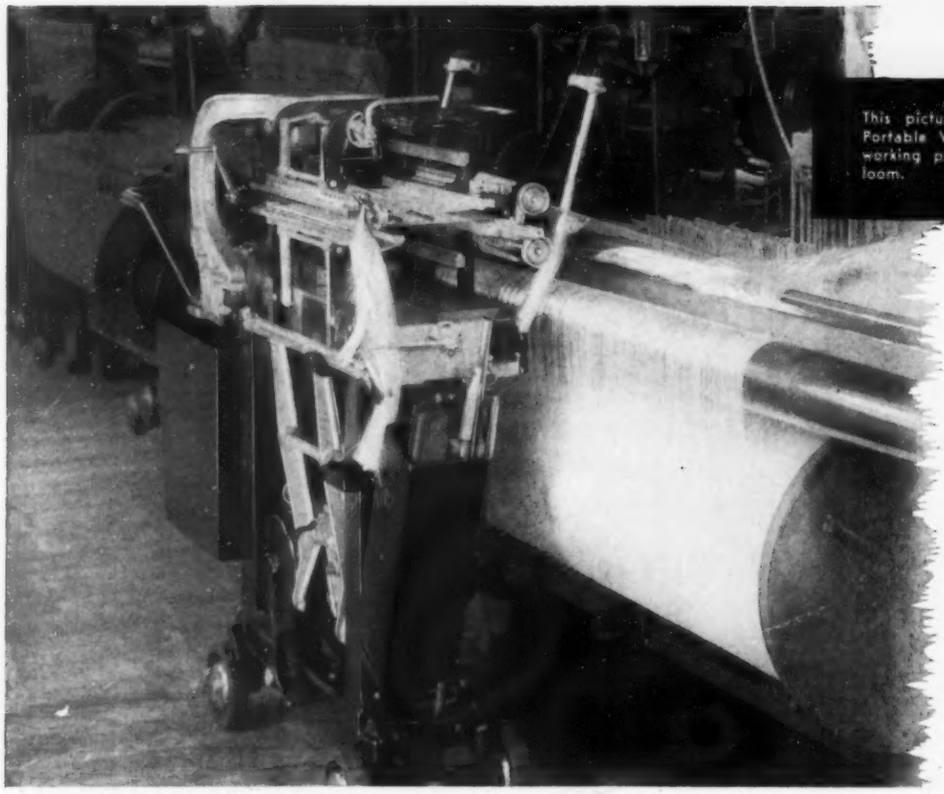
"UNISIZE" will solve your sizing problems. Send for a working sample today, or ask to have a Nopco representative run a trial in your mill soon. Write to:

NOPCO CHEMICAL COMPANY
2301 Essex St., Harrison, N. J.
(formerly National Oil Products Company)
Branches: BOSTON • CHICAGO • CEDARTOWN, GA. • RICHMOND, CALIF.

UNISIZE

6-IN-1 WARP SIZE FOR VISCOSE AND ACETATE

NOPCO EVOLVED THROUGH RESEARCH



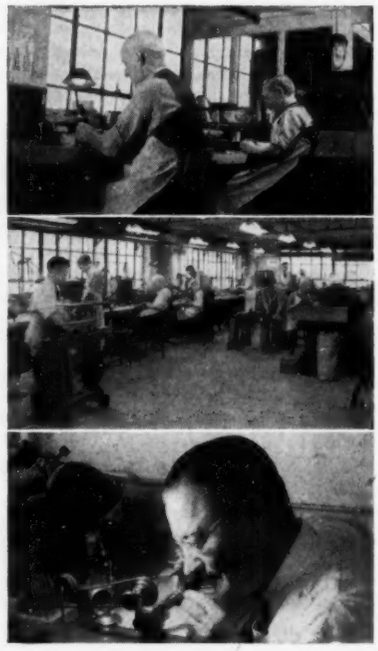
This picture shows a Barber-Colman Portable Warp Tying Machine in the working position, directly behind the loom.

BARBER-COLMAN WARP TYING MACHINES ARE BACKED BY 45 YEARS OF EXPERIENCE

DESIGN. Shortly after the turn of the century, Barber-Colman introduced several machines which have proved to be outstanding contributions toward improvement in the textile art. Among them is the Portable Warp Tying Machine, specially designed to work directly back of the loom. This machine is so light in weight as to be easily and quickly transportable from loom to loom throughout the weave shed.

REPAIR PARTS. As on any machine, certain parts in time show wear and must be replaced. Modern manufacturing methods set up standards and tolerances for the making of these parts so that any replacement is exactly interchangeable with the original piece. Barber-Colman Company maintains a skillfully-staffed department to make and stock those units which, experience shows, are in most demand. In addition, supplementary stocks are maintained at the company's branch offices to provide best-possible delivery from strategically-located centers.

SERVICE. No machine made can function without Service. Experienced Service Men must be available to explain and demonstrate the working of the machine when it is delivered, and must be on call if trouble develops to determine the cause of any failure, make necessary adjustments, and revitalize the productive functions of the machine. There are Barber-Colman men ready and willing at all times to answer promptly any call for assistance, and to make sure that Barber-Colman machines are on the job as near 100% of the time as possible.



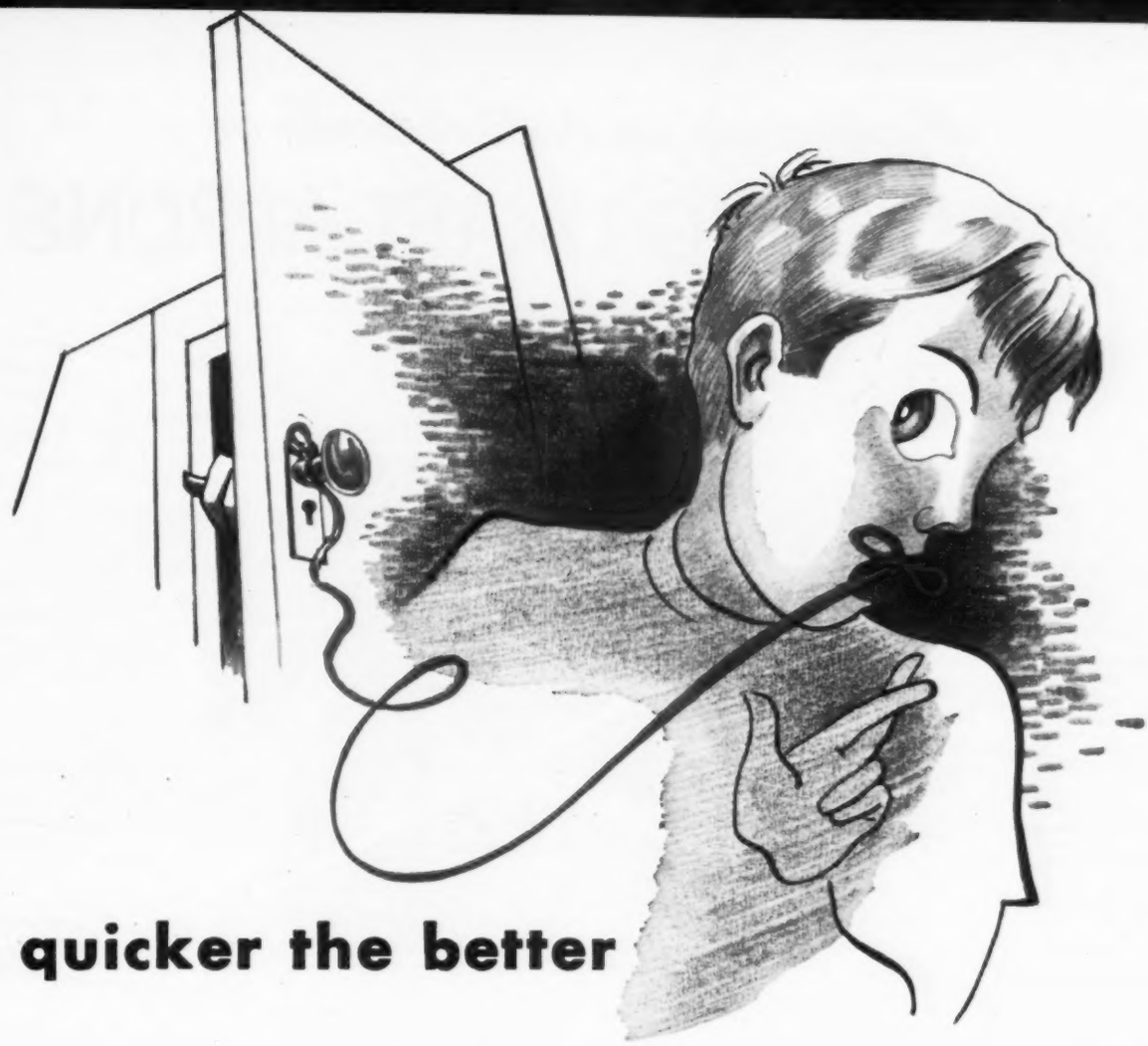
These pictures, taken in the Barber-Colman plant, show a few of the skilled mechanics whose experience and aptitudes contribute vitally to the quality and performance of Barber-Colman machines.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND



the quicker the better

THE QUICKER YOU PROCESS—THE BETTER YOUR WOOLENS

NACCONOL* NR

AMERICA'S LEADING SYNTHETIC DETERGENT

SCOURS FASTER

NATIONAL N QUALITY

COSTS LESS THAN SOAP

DOES MORE THAN SOAP

Additional production now available. Inquiries invited.

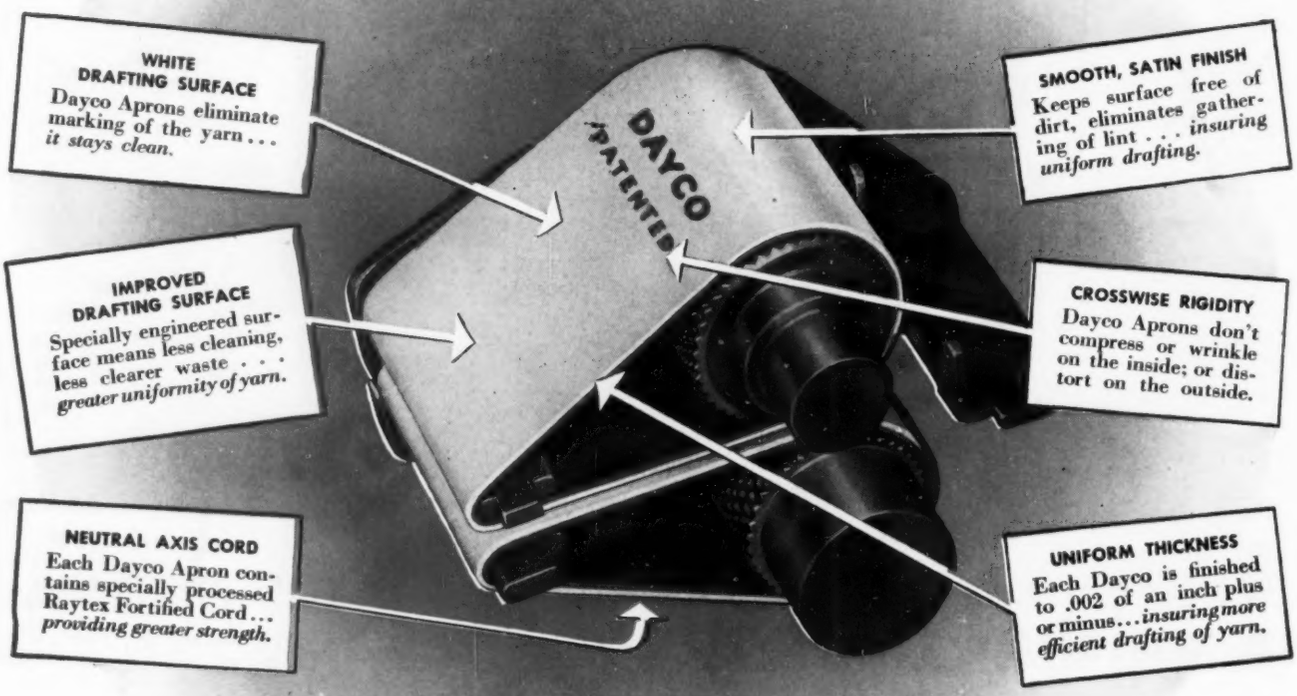
*Reg. U.S. Pat. Off.

National Aniline DIVISION • ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR ST., NEW YORK 6, N.Y. • BOSTON • PROVIDENCE • PHILADELPHIA • CHICAGO • SAN FRANCISCO • PORTLAND, ORE. GREENSBORO • CHARLOTTE • ATLANTA • NEW ORLEANS • CHATTANOOGA • TORONTO

6 reasons why you should standardize on

DAYCO LONG DRAFT APRONS



WHITE DRAFTING SURFACE
Dayco Aprons eliminate marking of the yarn . . . *it stays clean.*

IMPROVED DRAFTING SURFACE
Specially engineered surface means less cleaning, less clearer waste . . . *greater uniformity of yarn.*

NEUTRAL AXIS CORD
Each Dayco Apron contains specially processed Raytex Fortified Cord . . . *providing greater strength.*

SMOOTH, SATIN FINISH
Keeps surface free of dirt, eliminates gathering of lint . . . *insuring uniform drafting.*

CROSSWISE RIGIDITY
Dayco Aprons don't compress or wrinkle on the inside; or distort on the outside.

UNIFORM THICKNESS
Each Dayco is finished to .002 of an inch plus or minus . . . *insuring more efficient drafting of yarn.*

and, in addition, every DAYCO APRON

is tested for thickness!

Each Dayco Apron is tested to meet your specifications for single or double apron systems. Inside diameters are held to $\frac{1}{64}$" and thickness to .050, + or − .002 . . . another reason Daycos draft up to 10 percent more uniform yarn.

The above are but *a few of the many* reasons leading mill men insist on Dayco Long Draft Aprons for every frame in their spinning rooms.

Important, too, is their nonstretch feature that keeps them on the frames when you start up. Nondirectional Daycos can be put on either way. They are manufactured without laps or splices and are finished smooth inside without rib.

Dayco Long Draft Aprons are designed to handle natural or synthetic fibers better, more economically. If you aren't using Daycos on your frames, it will pay you to write for additional information, or have one of our textile machine accessory engineers call on you. He can show you additional ways to economical production of better yarn. Write The Dayton Rubber Co., Dayton, Ohio, *or Textile Division —Main Sales Office, Woodside Building, Greenville, S. C.*

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

We Know We Have "One" Reader

That's always a consolation to the S & R editor—to know that his page (as in this case) is being read. Recently a reader of T. I. commented favorably on our "Centralized Preventive Maintenance at Mt. Vernon-Woodbury Mills" story (February '48) and asked for 25 copies, but also asked that the request "not appear in Shorts & Remnants."

That really stopped us because nobody refers to S&R, and we just assumed it was a space filler to have something nice opposite the Dayton Rubber ad. Now we know we have an audience, limited as it may be. And speaking of the Mt. Vernon-Woodbury story reminds us of these recent letters:

"We are interested in obtaining for our library six reprints of the article" signed by B. F. Bergenson of Alexander Smith & Sons Carpet Co., Yonkers, N. Y.

Also referring to the same story is the letter from R. B. Davis of the Birmingham, Ala., office of Standard Oil Company of Kentucky, which, in part, said, "We are very interested in obtaining about 25 reprints of that article if it is possible to obtain them." He coyly admitted that their very special interest in this particular story was because their products are used at this mill.

◆

World Wide Interest

Paul V. Seydel's "Cotton Warp Sizing" series has had a strong following. S&R doesn't carry nearly all of the requests that come in for reprints (which will not be ready for some time). One such letter before us comes from Dr. W. G. Macmillan chief chemist, Indian Jute Mills Assn., Calcutta. Another is from James R. Hill, manager, Mill Starch Division, Corn Products Sales Company.

◆

We Feel Like Cupid

That's a misnomer, because we haven't been responsible for developing any romance . . . but we were delighted to be able to get old friends in touch with one another following receipt of this lettter: "Will you be kind enough to give me the address of my good friend Fay Martin, somewhere in New England, I believe. Am reminded of him by reading T. I., wherein I note occasional reference to him in connection with the roving frame."

EDWIN HOWARD

Greenville, S. C.

(The general idea of this is not unusual, though we are seldom told, because many readers follow the progress of their friends through our "Personal Notes" columns, "What the Textile Mills Are Doing" columns, "Suppliers' News" columns, seeing their names as authors, etc.)

◆

Reversing the Habit

"We would appreciate having you recommend to us a dyeing and finishing plant in the South that does commission dyeing and finishing of worsted cloth."

NAME WITHHELD

Woonsocket, R. I.

(Time was when the South sent practically everything to be finished to plants in the North. There is no breakdown of what is finished in the South and what is sent North. But for an inquiry from the North about finishing to be done in the South, is somewhat like "boy bites dog."

◆

Going Back . . Back . . Back

"We have been informed by the New York Public Library that you printed three articles on 'Cotton Fibre Fumigation' sometime during 1916 and 1917. Although we realize that quite some time has elapsed, we are interested in securing copies of the issues containing these articles, or reprints of these articles."

LAWRENCE T. BECK AND ASSOCIATES
Consulting Engineers
New York City

◆

Company Newspaper Fan

"I am wondering if you could secure necessary information for establishment of a plant newspaper. Also send me various copies of plant newspapers so I can have ideas to formulate a paper for our organization in the near future."

SANFORD KRAHICH

Tioga Weaving Co., Inc.
York, Pa.

(See "Employee Publications," TEXTILE INDUSTRIES, Dec. 1947.)

◆

Indices? Yes . . But Not Copies

"We are setting up a textile library using the articles in T. I. as a part of this set-up. We find that we are missing indices for the years 1944-1947. Could you supply us with an index for T. I. for these years?"

E. W. McOSKER

Superintendent
Arkwright Corporation
Fall River, Mass.

◆

Likes Editorials

"I see we are giving away two million more bales of cotton to the Hottentots and with thousands of ships sailing every month filled with other commodities there is no doubt that inflation will be with us for some time yet. I have been reading your editorials and appreciate them for, of course, they are full of truth and common sense."

Name withheld
for no special reason

◆

Not That We Know Of

"Do you have a list of the states which have passed laws requiring textile industries within their boundaries to cool their plants? Also, can you tell us how many plants have actually done so, and how many have been given an interval of grace before this has to be done?"

ADVERTISING AGENCY

(Though we do not know of any state law on the statutes compelling "cooling," we understand one southern state is trying to pass a law requiring air conditioning.)

BO-PEEP'S AND EDITORS' SHEEP

Readers may think editors live the life of Riley and have no problems of their own. Here's one on the distraught staff of T.I. Needing a sketch of a sheep to illustrate a wool article, the editors suggested that our artist prepare one, but not have the sheep appear "too sad." The above sketches are what the artist came up with. They will not appear in the editorial pages, for obvious reasons. Anything gets on this page.

SHORTS and REMNANTS

By M. L. D.

Wouldn't You Like to Know

Our business department will be intrigued with this opening paragraph of a recent letter:

"Our company will announce, at a press reception, a basic new development in the textile machinery field. We believe that it will have a revolutionary effect upon the quality and the speed of production of all types of fabrics. We are certainly convinced, after extensive laboratory and mill tests, that it is the most important technological development in the textile finishing field in recent years."

If it is as good as this company thinks, and if our salesmen *ARE* salesmen, maybe we'll have something more for you via the advertising pages . . . after all that is what they are often used for.

◆

To Make Socks Fuzzy

"We are interested in securing a brushing machine or napping machine to be used on socks to give them a fuzzy or wool-like appearance. We wonder if you could give us some information on where we might be able to secure such a machine."

PAUL E. JOHNSON, JR.

Shamrock Knitting Mills
Marietta, Ga.

◆

Ads Might Tell

"One of our clients in South America, who is a subscriber to your publication, has asked us to obtain information that you may have on recommended wire sizes for card clothing on the various rollers of woolen cards used in the production of fine carded woolen yarns."

F. J. GIORGI

S. J. Brisbin Co.
New York City

◆

Watch For July!

T. I. celebrates its 50th Anniversary with the July issue. Somewhere in that issue this fact will be admitted, but the real job our editors are doing is to give you "50 Years of Textile Progress," with a glittering array of authors and subjects covering all phases of the industry. It will be an issue you will be proud of and want to keep for keeps.

The industry has a magnificent story to tell and TEXTILE INDUSTRIES is going to tell it. Save some extra reading hours for the July 50 Years of Textile Progress issue . . . it will absorb your interest.

◆

Thank You, Mr. Lake

"Your pamphlet entitled 'Straightening Needles for Full-Fashioned Machines' was recently received by us and read with a great deal of interest. We would, therefore, like to obtain 15 additional copies of the articles for our key knitting personnel.

JOHN C. LAKE

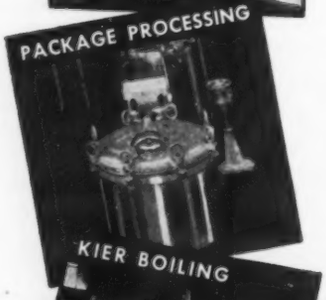
President
Grenada Industries, Inc.
Grenada, Miss.

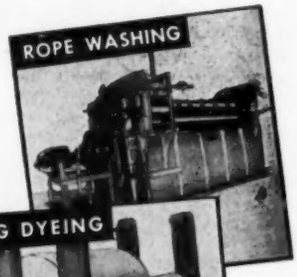
Jack of all Trades

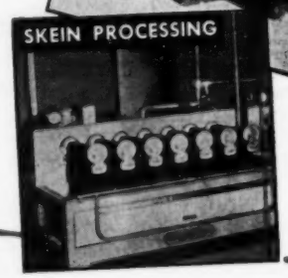
—and Master too!

TRITON 770 CONCENTRATE

Mill men know TRITON 770 CONCENTRATE as a dependable detergent, wetting and emulsifying agent. But did you ever realize how *many* different jobs TRITON 770 CONCENTRATE does in the textile mill? Glance over the applications shown on this page . . . they show *some* of the processes in which this dependable chemical helps in making textile mill operations more efficient and more economical. Write for full information on how you can use this fine chemical to advantage.







TRITON *is a trade-mark, Reg. U. S. Pat. Off.*

THE SERVICE THAT BUILT OUR BUSINESS CAN HELP YOURS

Our business has been built largely on the practical help we have been able to give our customers, right in their own plants, in adapting Rohm & Haas products to their needs.

Our representatives are men with technical training and practical experience in the use of industrial chemicals. Call in a member of our textile chemicals department when you need assistance in choosing or using . . .

Chemicals for Fine Textiles

Represented in Canada by Rohm & Haas Company of Canada, Ltd., Toronto; and in South America by Cia. Rohm y Haas, S. R. L., Carlos Pellegrini 331, Buenos Aires, Argentina, and agents in principal South American Cities.

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Manufacturers of Chemicals including Plastics • Synthetic Insecticides • Fungicides • Enzymes • Detergents • Germicides • Chemicals for the Leather, Textile, Ceramic, Rubber, Paper, Petroleum and other Industries

The ECA and Inflation

NOW THAT the European Recovery Program has been definitely set in motion—rechristened the Economic Cooperation Administration—and money appropriated for its first year of operation, a great deal of speculation has been indulged in as to whether ECA is going to cause inflation or not. We have government officials who have argued that it will not, and a number of editors, bankers, and economists have agreed with them. Others contend that this program will cause inflation, but in all of the argument that has come to our attention, it seems that practically everyone who has commented on the subject is not really talking about inflation, but speculating on the question of whether ECA is going to increase prices.

As we have repeatedly pointed out over a number of years, inflation and high prices are two different things, although practically everyone mistakenly refers to high prices as "inflation." Inflation invariably increases prices in time, because prices are quoted in terms of money, and inflation reduces the value of money by increasing the quantity of it in circulation without increasing the supply of goods to offset the increased supply of money.

Whether ECA will be inflationary or not depends entirely on whether its costs are paid out of taxes or not. If the people are taxed for the things that are sent abroad, then ECA will not be inflationary. If this cost is not wholly paid out of taxation, the difference between what is paid and what isn't paid through taxes will represent inflationary pressure, because this difference will be left in the hands of those who received the money, to spend for anything they choose to buy, and everything we send to Europe must be marked off as a total loss as far as any present commercial value is concerned. We are not expecting to get anything of immediate commercial value back in exchange.

Whether ECA will raise prices or not depends on what we have to send to Europe and how scarce it is, regardless of whether any inflation is created by the operations of the Economic Cooperation Administration. Though inflation invariably must increase prices in time, prices can also be increased without any inflation whatever if there is a sharp demand for something in scarce supply. We have been shipping great quantities of a large number of things to Europe for several years, and the purchasing of these things has undoubtedly helped to raise their prices.

There is one tremendous difference between price rises due to inflation and price rises due to scarcity. Inflation increases *all* prices, because it actually reduces the value of money. Scarcity will raise the prices of the things that are scarce, without necessarily affecting the prices of other things, and sometimes other prices may actually fall where purchasing power is drained off to meet the increased prices of scarce but necessary commodities.

Therefore, if ECA puts more money in circulation while at the same time reducing the volume of purchasable goods, it will cause inflation; on the other hand, if ECA is financed wholly through taxes, it may easily increase the prices of some things urgently needed in Europe, while not raising, or perhaps actually reducing, the prices of things not required by ECA and in lowered demand domestically by reason of purchasing power drained off through taxation to support ECA.

In view of the recent tax reduction, it is fairly certain that ECA will be inflationary. Of course it may be that after the fall elections, when politicians can think more clearly for at least 18 months, there may be a reimposition of higher taxes if the Federal Treasury begins to go into the red.

This recent tax reduction gives people around four billion dollars more money a year to spend than they would have had without the tax cut. Most of this money will be in the hands of people who will spend it very quickly for consumer goods, and that will of course have a tendency to push prices up unless our labor unions will make the unheard of conces-

The only way wages can be justifiably raised without merely shifting the load from one pair of shoulders to another is through increased production per man.

sion of increasing production per man. There is little likelihood of that, however, until the next depression when jobs are scarce and people are willing to work at them, instead of loaf on them.

This tax reduction was definitely inflationary, because a very large amount of the money now in circulation represents pure inflation; the money merely having been ground out of printing presses, while representing absolutely no commercial value whatever, or so small a value as to be negligible. Sane government financing would indicate that as much of this printing press money as possible should be withdrawn from circulation and used to retire the bonds which created it.

There is a point, however, beyond which this sort of deflation becomes impractical. It is much more important to keep the national economy in steady motion than to risk the wrecking of it by trying to undo foolishness that should never have been done. Monetary inflation is almost entirely an irreversible process. The depreciated, or valueless, money can be put in circulation easily and quickly, but it is practically impossible to get it back out and purify the diluted currency.

We should therefore try to collect as much taxes as we can from as many people as possible, but this is a very unpopular program in an election year. Even more important is the avoidance of the economic folly of the wartime years, when most of our expenditures were made with inflation. If ECA, or the Rearmament Program now in prospect, calls for more money than we are raising by taxes, the sensible thing to do is to increase taxes and not push ourselves deeper into the muck of inflation.

It is very difficult to give a brief, concise definition of inflation, and most economists who try to define it make the definition too complicated for the ordinary citizen to understand. A fairly good, brief definition is:

Inflation is the putting into circulation of money representing less commercial value than the money already in circulation.

This covers the matter about as well as any short definition possibly could, for inflation can be brought about in a number of ways. All of these, however, must conform to the terms of the definition. Wartime inflation was primarily caused by the government issuing vast quantities of cash and negotiable securities to pay people to produce goods of little, or no commercial value. Since the goods that must be furnished to ECA will represent little, or no commercial value, inflation will be created if the purchase price of these goods is not raised entirely by taxes. That is, the people must recognize that these goods represent a total commercial loss, and write off the loss immediately.

We should try to collect taxes from as many people as possible, but this is a very unpopular program in an election year.

Inflation is also created when wages are generally raised without any corresponding increase in production, because money which represents no value is put into circulation. If the wages of textile mill workers are raised one hundred million dollars a year, but no more goods are produced, then the purchasing power of the rest of the population is reduced by one hundred million dollars a year, less the purchases by textile workers themselves of textile products.

If the rest of the population is willing to bear this shift in purchasing power, no harm to the whole national economy may be done. The textile workers are better off, and everybody else is worse off by the same total amount.

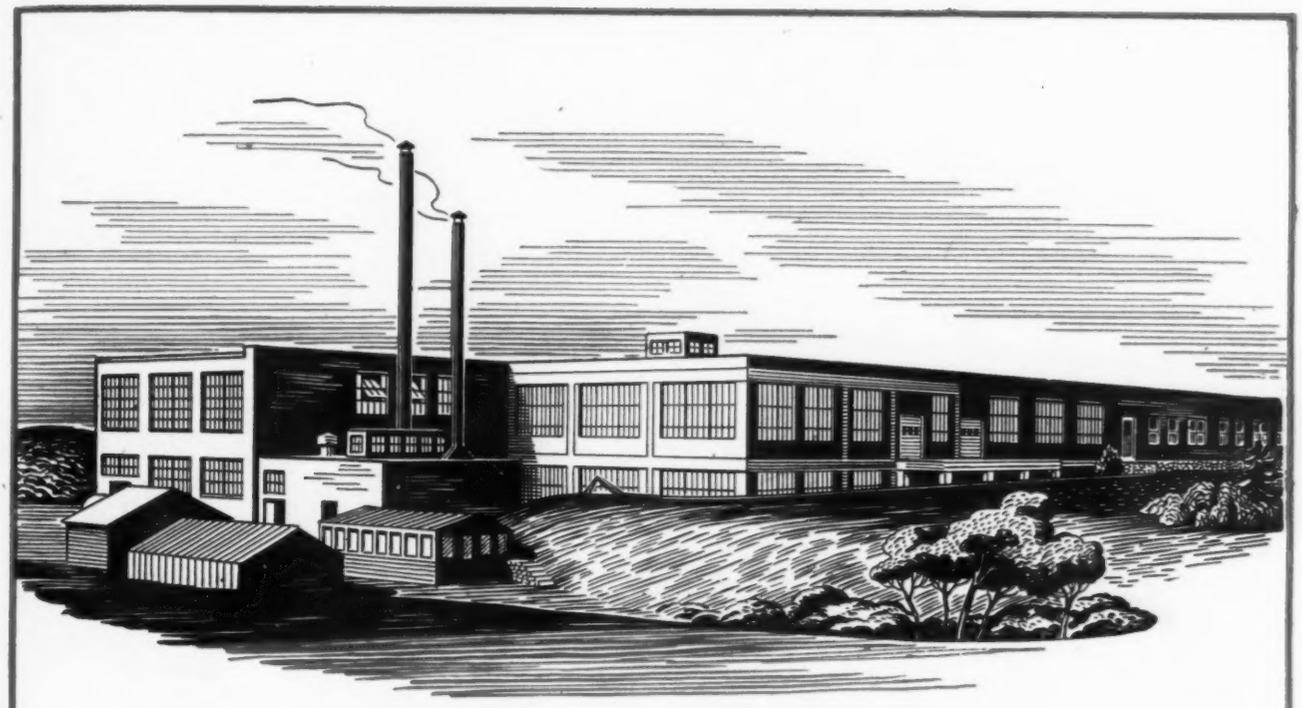
If, however, the rest of the population is not content to bear this shift in purchasing power, and certain groups insist on having their incomes increased in proportion to that of the textile workers, until finally all incomes have been increased in direct proportion to the increases granted the textile workers, then we do have a very definite case of inflation, because if the same quantity of goods is produced, the real value of the goods remains unchanged, but it takes more money to represent the same real value. The amount of money in circulation has been inflated, with a corresponding decrease in its value.

The only way wages can be justifiably raised without merely shifting the load from one pair of shoulders to another is through increased production per man. Any other wage increases besides those based on greater production must inevitably put in circulation money which represents no value.

If the requirements of ECA cause shortages sufficient to raise prices enough to inspire labor unions to demand an additional general round of wage increases, we will thereby get more inflation to add to the too much we already have. There are several big strikes for higher wages now in progress, and others in prospect. This wage-price spiral must be stopped some time, and there are hopeful indications that maybe it can be stopped now. Whether ECA purchases will push prices up enough to give added impetus to fresh demands for inflated wages, and thereby higher prices, will not be known until the big ECA spending begins.

It seems unlikely that this ECA spending is going to give any permanent boost to the United States textile industry, and may actually depress it. Europe's textile mills did not seem to be very extensively damaged, and these mills have always produced far more goods than Europe needed, with a big surplus for export. A lot of any surplus will soon be coming over here.

We hope that ECA can be administered without adding to our present over-supply of inflation, but inflation is dear to the hearts of politicians, and we have our doubts.



HEADQUARTERS FOR SIZE

THE FACT that we are the nation's largest producers of sizing is important only as indicating the superior qualities of SEYCO Sizing in textile production.

SEYCO Sizing is scientifically formulated to produce a tough, elastic, pliable film, which lays the fibers smoothly; reducing friction, breakage and shedding to the minimum.

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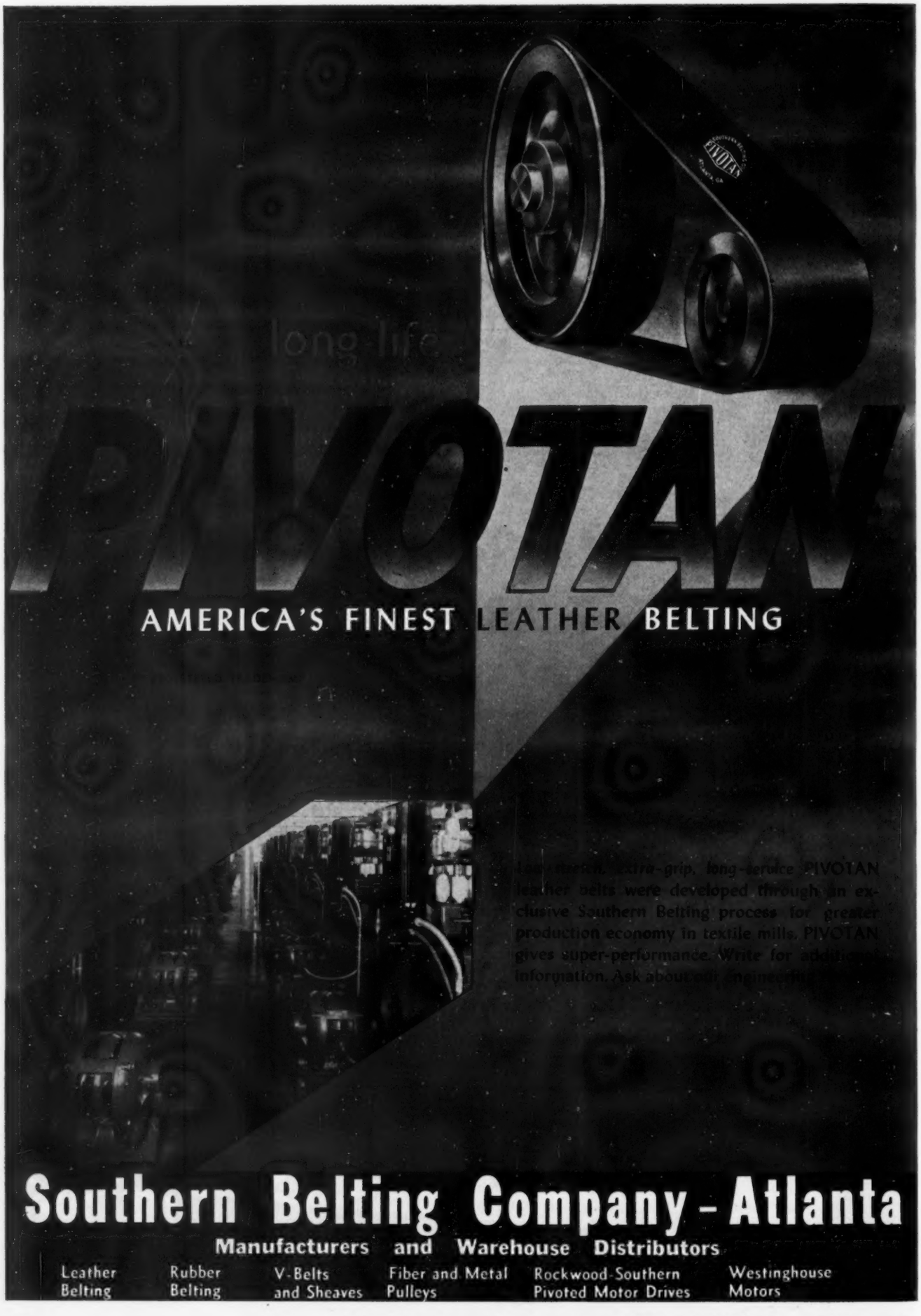
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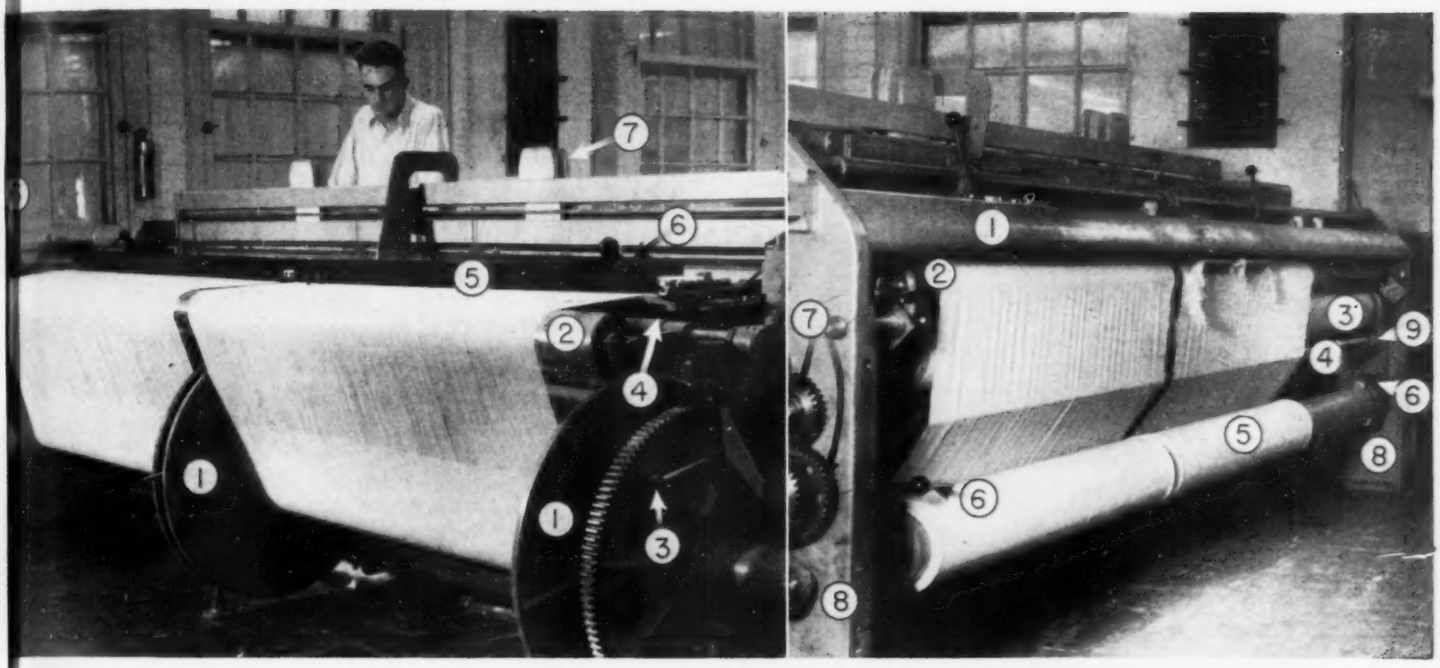


Above, back and front of Warner & Swasey weaving machine. Key numbers for photo at left (back of machine): (1) warp beams; (2) whip roll; (3) quick release for warp beam; (4) torque tube; (5) drop wires; (6) drop wire locator; (7) harness guide. Photo at right (front of machine): (1) breast beam; (2) press roll; (3) take-up roll; (4) guide roll; (5) cloth beam; (6) quick release for cloth beam; (7) take-up (and pick) gears; (8) frame; (9) cloth beam chain drive.

The American-Made Swiss Weaving Machine

By JOHN C. FONVILLE

Warner and Swasey Company to gear for production of modified Swiss weaving machine in late 1948.

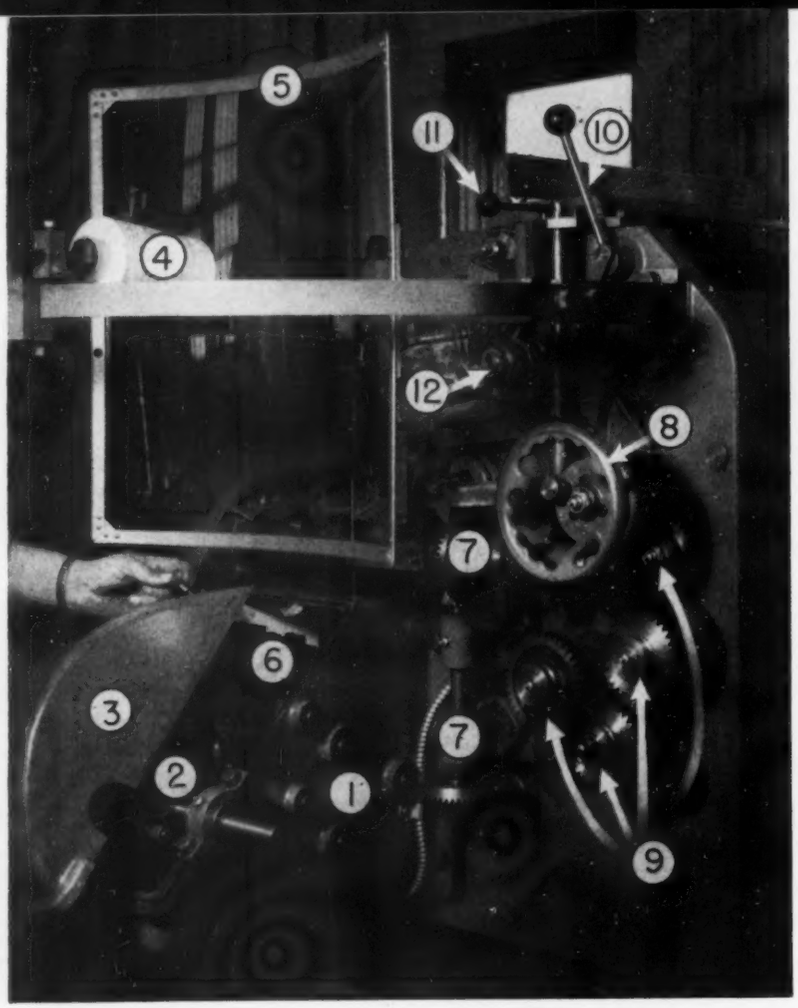
"Textile Industries" Staff Photos

DURING the past year the textile industry has displayed an enormous amount of interest and curiosity in the Swiss (Sulzer) weaving machine, which is now being manufactured in this country. Five pilot models have been completed by the manufacturer, The Warner & Swasey Company, Cleveland, Ohio.

These pilot models were shown to members of the textile trade press the first week in June.

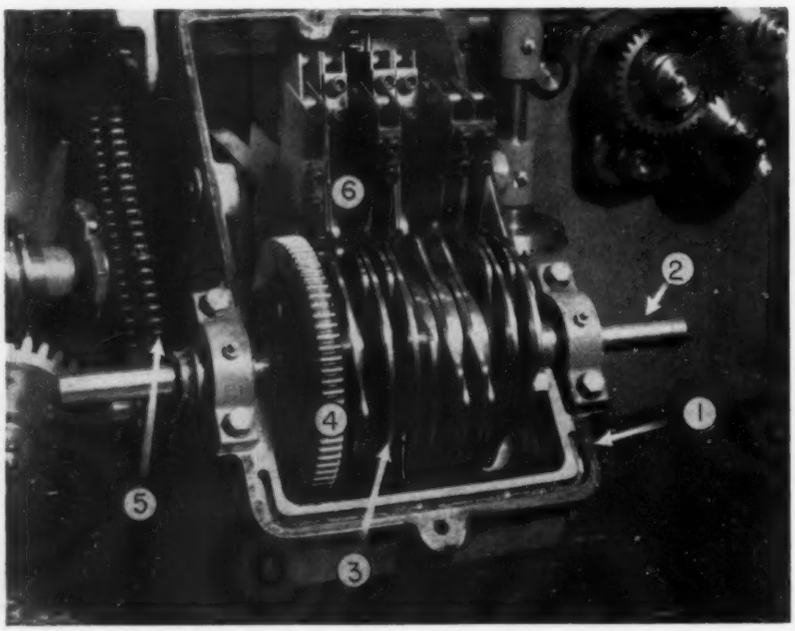
According to the American manufacturer, the weaving machine as manufactured in Switzerland by Sulzer will not be imported into this country; Warner & Swasey have made arrangements for the manufacture of the machine in this country, to their own modification of the Swiss design, and will handle sales in the United States.

Production 1948. The five pilot models thus far completed have been built for operation under mill conditions, and it is expected by the end of the fourth quarter of 1948 that production facilities will have been geared so that U. S. textile mills will have from 200 to 250 of the machines in operation. Warner & Swasey may be termed conservative, despite the equipment's being of radical design compared



Lefthand or picking end of weaving machine. Key numbers: (1) cam box; (2) harness cams; (3) cam box cover; (4) filling supply; (5) lint shield ("windshield"); (6) harness adjusting arms; (7) shed closing device; (8) pick back (manual); (9) take-up change gears (pick gears); (10) shed closing and opening lever; (11) automatic pick back (powered reverse motion); (12) filling tensioner.

Close-up of cam box with cover removed. Key numbers: (1) cam box; (2) cam shaft; (3) harness cams; (4) drive gear; (5) chain to transmit power from main shaft to cams; (6) harness adjusting arms.



with American standard usage, and the initially produced machines will be strategically located in mills so that any discrepancies in minor parts may be brought to light immediately under production conditions, and corrected promptly.

The Sulzer weaving machine development began in the decade of the 1930's, and the Swiss company continued to invest in the project until the war. American rights to manufacture the weaving machine followed the pattern of many companies, old and new, which had expanded production during the war and upon its close found themselves with extra production facilities but nothing to keep the plant at capacity operation.

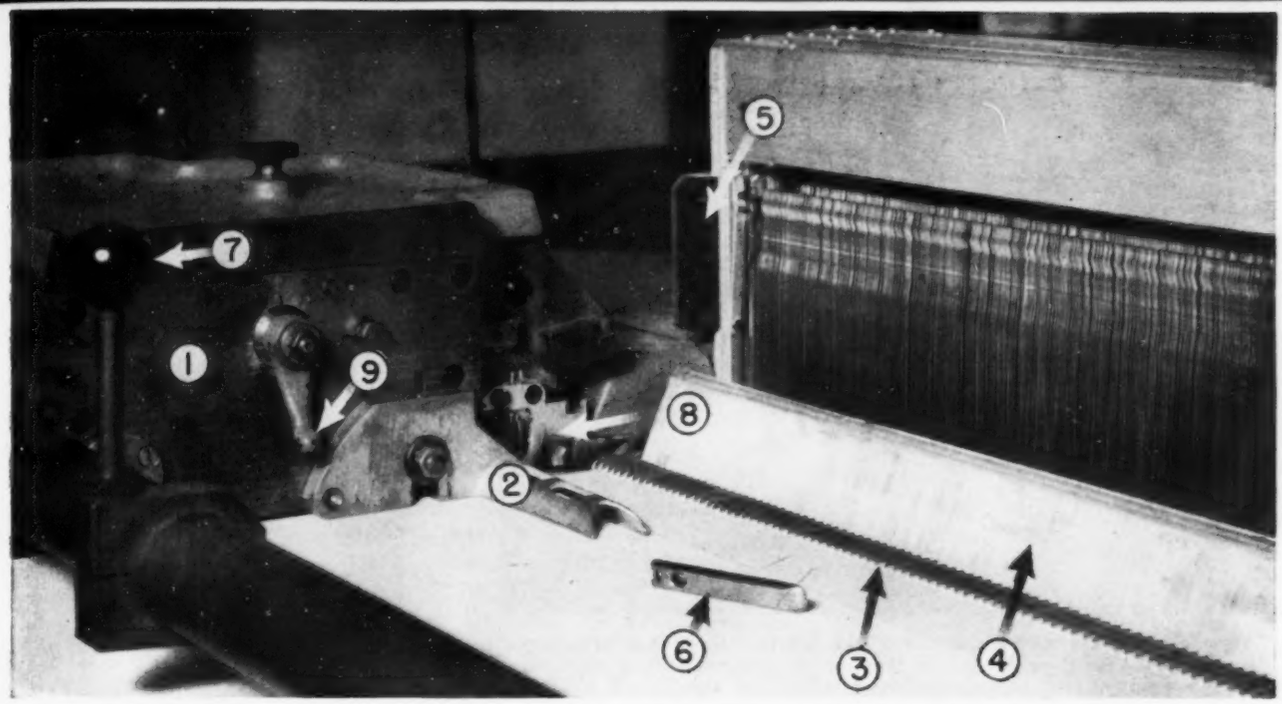
The American manufacturer is interested in making a precision-built product for the textile industry on the American volume-production basis, according to the best machine tool manufacturing and design practice. The company has made plans for a complete servicing organization of the new machine and for the supply parts.

To this date, and in the company's pilot plant, the weaving machine has been run on cotton, spun rayon, nylon, wool, glass, paper, rubber, and core yarn, all successfully, according to the company.

Multiple Shuttle Design. The Swiss machine does not have a conventional shuttle, bobbin, picking motion, race plate, or harness cams, but it does employ a warp beam, warp stop motion, harness and heddles, reed, and sand roll.

The shuttle is a small piece of machined steel approximately 3⅛ inches long and ½ inch wide, and each machine may require from 12 to 17 such shuttles, depending upon the width or widths of the cloth being woven. One 64-inch fabric requires 12 shuttles; two 41-inch fabrics (total width 83 inches) require 15 shuttles; and two 52½-inch pieces (total 106 inches) require 16 shuttles; one 110-inch fabric requires 17 shuttles. [Total width explained later.]

Shuttle is Guided. The shuttle guide, which serves as the race



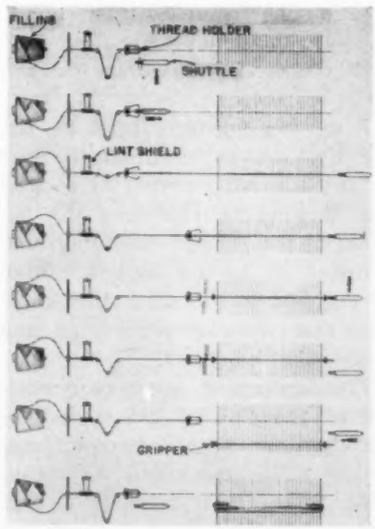
Close-up of lefthand end of weaving machine, showing picking box. Key numbers: (1) picking box; (2) temple; (3) shuttle guide; (4) reed; (5) harness guide; (6) shuttle (placed on fabric for photographing); (7) starting lever; (8) filling thread gripper; (9) filling thread gripper adjuster. After guiding the shuttle through the shed, the shuttle guide (3) ducks below the warp to permit the reed to beat up.

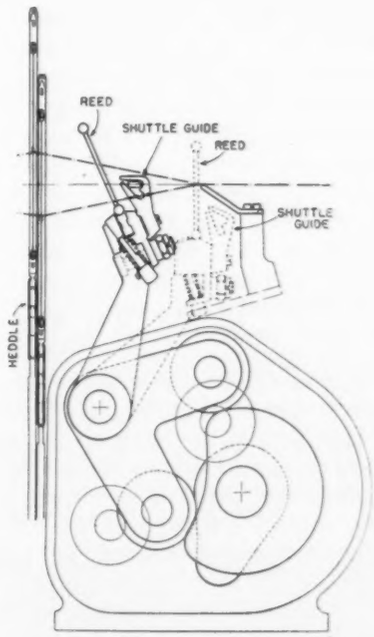
plate, is a series of steel loops extending across the "lay," through which the steel shuttle passes, never touching the reed or warp. This shuttle guide, by necessary camming action, is first in position (partially through warp) to receive the shuttle and guide it through the shed; when the reed moves forward in an arc for the beating-up motion, the shuttle guide then ducks below the fell of the cloth, retaining the filling in the shed until the time of beat up.

Filling Supplied from Cone. The conventional filling bobbin is eliminated, the filling being supplied from a cone on one end of the weaving machine. Filling supply for each pick is placed in position by centering fingers, where it is gripped positively by the spring action of the shuttle, carried through the warp, released by the shuttle, tension applied to the filling from the opposite end to remove kink and tighten, and the tail is then cut and tucked into the selvage approximately 7/16-inch by a needle, located under the temple, which passes up through the warp and pulls the tail into the shed. The filling is positively held at a predetermined tension until completion of the beat up.

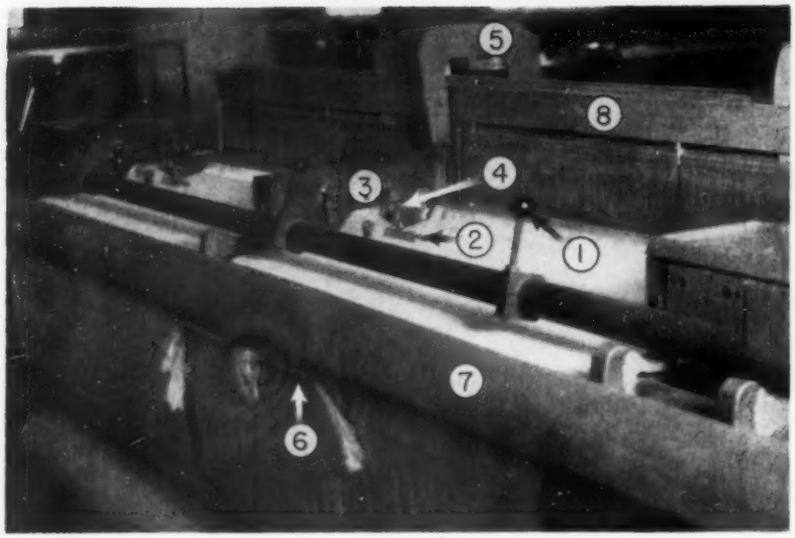
The tucking of cut ends of filling is performed simultaneously on each edge of the cloth, irrespective of the number of pieces being woven.

Below, schematic diagram showing picking operation. At right, sketch showing how shuttle is guided through shed.

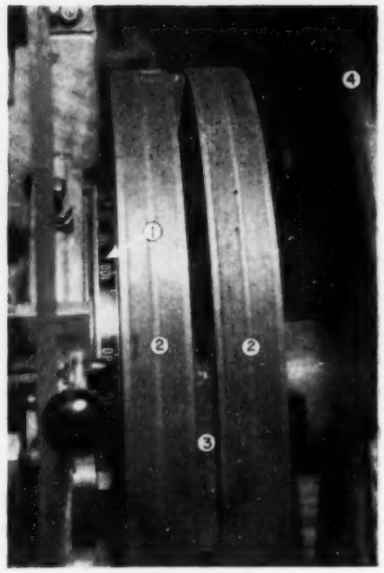




Shuttle Return. Having supplied the pick, the shuttle, which has been stopped by friction in the receiving box, is pushed out of the box, drops onto a conveyor, and is returned to the lefthand side of the loom, where it repeats its performance every twelfth, fourteenth, fifteenth, etc., pick,



View of weaving machine running two fabrics simultaneously. Key numbers: (1) starting lever; (2) temple; (3) center tucking unit; (4) thread gripper; (5) harness guide bracket; (6) tie thread holder; (7) breast beam; (8) harness. Tucking unit is used between separate fabrics. If three fabrics are woven at the same time, two center tucking units are required. Each edge of cloth requires a temple.



The index wheel, by which all settings and timings of weaving machine are made (see text). Key numbers: (1) index wheel; (2) grooved pulley on main shaft; (3) friction clutch; (4) hand wheel.

depending on the number of shuttles used.

Picking Motion. As can be visualized, the machine picks only from the lefthand side to the righthand side. Picking power is derived by placing a 30-degree torque on a metal rod, and releasing the stored power through a toggle joint to an 8½-inch metal picker stick. The picker is a piece of metal 1¼-inch in length, and is hydraulically checked at the end of its stroke.

"Selvages." No conventional selvage is formed, but for 7/16-inch on each side of the cloth an extra tail or layer of filling is tucked in, as previously explained.

An alternative type of selvage termed a "twisted selvage" can be used.

This is made by twisting warp ends around the filling at each pick. The warp ends are twisted eight times in one direction, and then eight times in a reverse direction.

This type of selvage is useful when the cutter desires to cut right up to the edge of the cloth, or when the construction of the cloth is so heavy that the extra filling yarn in the selvage is objectionable.

Multiple Fabric Weaving. The machine is capable of weaving a fabric 110 inches wide, or several fabrics totaling 110 inches minus one inch for each tucking device dividing the cloth. For instance, it may weave two pieces of cloth at the same time, both of which are 54½ inches wide; or three pieces of cloth 36 inches wide, etc. Separate temples are required for each piece of fabric.

Also, the machine may be adjusted so that the cloth widths may be any desired number of inches; this is done by changing the position of the shuttle receiving box.

Inasmuch as the shuttle cannot be trapped in the shed, breakouts from this cause are eliminated, and there is no bang off.

The equipment was seen operating at a speed of 235 picks per minute making two separate pieces of 156 x 80 broadcloth, 40 inches wide each, 8 harnesses, reeded three per dent. The present machine has not been made to take a dobby, but is said to be able to make any fabric that can be made on a single shuttle cam loom.

Harness Motion. Harness capacity is eight harnesses. These operate by direct cam motion both up and down, without straps or springs. Wooden guides on top of harnesses prevent their binding.

The harness cam assembly is located on the lefthand side of the machine, from which the shed may be adjusted or the warp raised or lowered in relation to the shuttle guide (race plate). The adjustment is made by loosening nuts, changing the position of a metal arm, and tightening nut.

The harness cams operate in a bath of oil. Cams are actuated from the main shaft by chain drive.

When a warp end breaks, the machine automatically places the harness and the reed in the drawing-in position. Should it become necessary to level the harnesses upon stopping the machine manually, one pull on one of the five shipper handles does the job.

The harnesses receive motion through vertical and horizontal levers connected by a quadrant.

Warp Beam; Stop Motion. The machine has cast iron warp beam heads, the width of the beam depending only on existing mill slashers. One beam or two may be used, but the number of beams has no relation to the pieces of cloth to be woven; two or more pieces of cloth may be woven at the same time from one beam, or one piece of fabric may be woven from two beams. When more than one beam is used, a differential drive maintains uniform tension on both beams.

Warp stop motion is electric, but

is also supplied with sliding bar drop wire finder for manual operation.

The drive is by multiple V-belt from a 3 hp motor, through a friction disc.

Cast iron sides are used; shafts are hardened and ground; and gears are straight tooth, with bevels where necessary for transmission of power.

Bearings; Lubrication. As many parts as practicable operate in a bath of oil; these include all cams, picking and shuttle receiving units, and lay housing (rocker shaft). The bearings are ball, roller, bronze, and oil-impregnated metal.

The main shaft and the rocker shaft are on approximately the same level, with the rocker shaft being located behind the main shaft. The eight lay swords are 6½ inches long. The lay bar has the reed (metal ribbed and no reed cap) and shuttle guide affixed to it.

Timed by Index Wheel. All timing of the machine is done by a numbered index wheel; degrees are indicated from 0 to 360. This system is said to eliminate the human error in settings. The reed moves forward at 0 degrees to 60 degrees (where it is on "front center"), and the harnesses are set between 0-60 degrees—10 degrees, early; 50 degrees, late timing.

Company technicians who have operated the machine advised that by checking the index wheel, which turns with the main shaft, irregularities in operation are quickly discovered. Inasmuch as all settings of the motions are made from the index wheel, if the index wheel stops at a certain number the operative knows which motion stopped the machine, or which motion is not working properly. For instance, the shuttle detector (stop motion) is set at 310 degrees. If the operative is in doubt as to which stop motion caused the stop, he glances at the index wheel which registers 310 degrees when stopped by this motion.

Stop Motions. Once any of the numerous stop motions have operated to cause a stop, the machine cannot be started again until all working parts are fixed. If the filling is depleted, the shuttle out of position, a warp thread broken, etc., the weaving machine cannot be made to pick until everything is in order.

Stop motions are on the machine to prevent its running if the filling is broken or depleted, if a warp thread breaks, if shuttle is out of position for picking, if shuttle is not in receiving box, if shuttle is not open to grip filling, if shuttle fails to drop to conveyor, if scissors and centering fingers do not work, if harness cam followers are not against cams, etc.

The take-up motion is driven from the main shaft, and pulls cloth forward by train of gears, over guide roll, take-up roll, over press roll, and to cloth roll, the latter having a friction clutch and chain drive.

Reversing Motion. The machine also has a reversing motion, used when the operative needs to find the pick. By pulling on a lever, the harnesses go back one pick, under power. A manual let-back is also provided.

Four pick gears are in the gear train, all of which may be removed without a wrench. Arc rings are used instead of cotter pins to hold shafts in place.

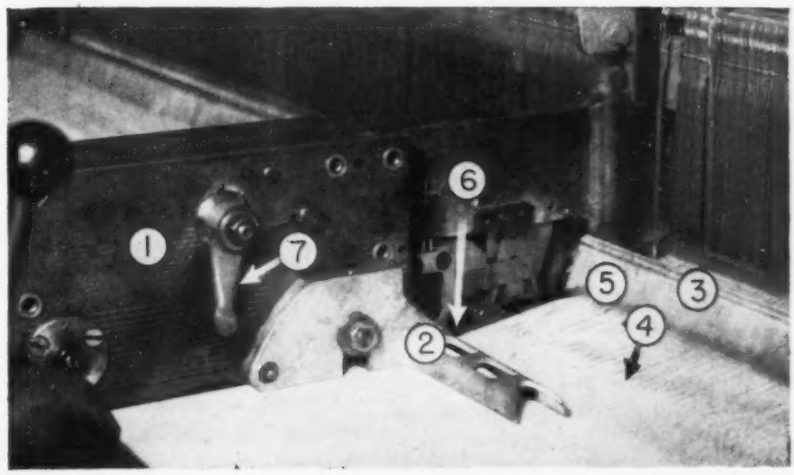
The warp let-off motion is governed by a ratchet and is controlled by spring action on the whip roll; tension may be set manually.

The machine has a "windshield" on the picking end to prevent lint from the filling supply from getting into the parts.

In view of the departure of the weaving machine from conventional textile equipment, it may at first sight appear to be a comparatively intricate machine. Analysis of the various elements, however, will show no more complications than the ordinary loom, and "regular loom fixers have been easily trained to operate and maintain it," according to the company.

View of drive gears (lefthand side of machine). Key numbers: (1) drive gears; (2) torsion rod adjustment.

Close-up view of center tucking unit. Key numbers: (1) center tucking unit; (2) temple; (3) reed; (4) shuttle guide (below top shed); (5) filling thread guide; (6) tucking needle position (needle out of view); (7) adjusting lever for thread gripper.



Effect of Draft Distribution

On Strength and Appearance of Cotton Yarn

By LOUIS A. FIORI
Southern Regional Research Laboratory*
New Orleans, La.

A detailed report of studies relative to the effect of draft distribution on yarn skein strength and appearance in drawing, roving, and spinning processes.

THE EFFECTS of changes in drafts on the strength and grade of a single coarse yarn (15.75s) were studied by varying the drafts on the drawing, roving, and spinning machines. Four different varieties of cotton varying in staple length from 1″ to 1½″ were used. It was found that any appreciable increase in the spinning drafts definitely reduced strength with no effect on grade; but that neither changes in drawing frame drafts and doublings nor in roving frame drafts caused any apparent loss in strength or change in yarn grade.

Introduction

The term "draft" as used in textile manufacturing may be defined, for the sake of simplicity, as the act of drawing out and parallelizing fibers, resulting in a reduction in bulk and weight of the stock as it passes through the various machines used in yarn manufacturing. It is difficult, however, to simplify the discussion of the effects of draft on fibers or on the properties of the finished yarn.

From the days of the spinning wheel, when the principle of draft was first introduced, the textile industry has made much progress. Draft theories have been altered by the development of the various long-draft systems, and literature on the subject has been extremely controversial.

For the most part, the majority of cotton mill overseers through years of experience have formed opinionated draft theories of their own. It is useless to hope that they will accept or initiate sudden changes in their current practices of manufacturing yarns without proof that the proposed changes are reasonably certain to improve the quality of their products and at the same time provide flexibility in the carding, drawing, roving, and spinning processes. Any suggested changes, without this proof, will seem to be additional risks in processing to these experienced mill men.

With a view to assembling a system of drafting where a reasonable degree of flexibility would be obtained without impairing yarn quality, a study employing four typical types of cotton with varying staple lengths was made to determine the effect of changes in drafts and doublings on the skein strength and grade of a single coarse yarn (15.75s). In addition, it was hoped that this investigation might show where changes in organization would improve yarn quality. In mills where "unbalanced" situations occur, the advantages of organizational changes are obvious.

Tensile strength (especially skein strength) is usually the best known criterion and the most important specification for yarn; therefore organizational changes that could be made without subsequent loss of yarn strength would be particularly advantageous.

The scope of the present investigation was limited by count range. Also, it was limited by the arbitrary selection of the variables to be changed while holding the others constant, and the necessity for applying the routine principles of tire cord manufacture (especially the principle involving the use of appropriately low spinning twist multipliers resulting in relatively low skein strengths). Future investigations will be undertaken on progressively finer yarn counts and twists that produce optimum single yarn strength.

Determinations were made of skein strengths for each individual lot. However, in interpreting the results, emphasis was placed on trends within groups rather than on the individual determinations.

A series of identical processing

*One of the laboratories of the Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Department of Agriculture.

experiments were conducted on yarns from four different types of cotton representing extreme staple length. These included one typical mill bale of cotton of unknown variety or varieties. The lots of cotton processed are shown in the accompanying box.

To minimize the variables, card slivers of 60 grains per yard were made (irrespective of cotton variety or length).

To further simplify matters, and to bring processing efficiency within the limits of both the short and the long staple cotton, a constant operating routine was worked out for each process. One exception was with the SXP type cotton in the opening and picking procedures.

The card sliver was divided into three groups, according to the variety of cotton used. Each group was divided further into five lots. The first five-lot group (A, B, C, D, and E) of each variety of cotton had drawing frame drafts as a variable. The second group (A_1, B_1, C_1, D_1, and E_1) had roving frame drafts as a variable. The third group (A_2, B_2, C_2, D_2, and E_2) had spinning frame drafts as a variable. In addition, and simultaneously with these drafting changes, doublings from four to eight were introduced at the back of the drawing frame so that comparisons could be made between each of the five lots within the three groups of each variety of cotton. The similar lots (C, C_1, and C_2, namely; the mid-points of the three groups) represent the estimated efficient and practical draft ranges of the machines (drawing draft—6; roving draft—12; and spinning draft—18.86).

Only one process of drawing was used in each series. For comparisons, however, a "control" lot of each variety of cotton was processed with two processes of drawing, as in regular commercial procedure.

Accurate determinations were made of percentages of waste removed at the various opening, picking, and carding processes. Total visible waste removed during these operations, based on net weight fed to the opening equipment were (1) unknown (SLM)—1" (9.26%), (2) Stoneville 2B (M)—1-3/32" (7.12%), (3) Wilds 13 (SM)—1-3/8" (9.35%), and (4) SXP (1-1/2)-1-1/2" (11.06%). This organizational data is summarized in Table 1.

LOTS OF COTTON PROCESSED

Lot	Variety	Classer's Staple Length	Grade
1	Unknown[1]	1"	SLM
2	Stoneville 2B	1-3/32"	M
3	Wilds 13	1-3/8"	SM
4	SXP	1-1/2"	1-1/2

1. Variety or varieties of cotton are unknown. Bale was bought as being equal to type of cotton used in tire cord by a large tire manufacturer.

Mechanical Organization

(1) **Opening.** Automatic hopper feeder — Spirawhirl — Downstroke — Condenser. For the SXP cotton, the Spirawhirl was bypassed.

(2) **Picking.** Picking consisted of a combination breaker and finisher picker with an automatic feed-

Table 1. Organizational Plan

Cotton Variety	Breaker Picking			Finisher Picking			Carding			Breaker Drawing			Finisher Drawing			Roving			Spinning			Total Draft	Test Numbers			
	Doublings	Draft	Ounces/Yard	Doublings	Draft	Ounces/Yard	Doublings	Draft	Grains/Yard	Doublings	Draft	Grains/Yard	Doublings	Draft	Grains/Yard	Doublings	Draft	Hank Roving	Doublings	Draft	Count	Breaker Drawing Through Spinning	Unknown (SLM) 1"	Stoneville 2B (M) 1-3/32"	Wilds 13 (SM) 1-3/8"	SXP (1-1/2) 1-1/2"
										4	4	60	.....			1	12.00	1.07	2	18.86	16.75	905.28	1A	2A	3A	4A
										5	5	60	.....			1	12.00	1.07	2	18.86	16.75	1131.60	1B	2B	3B	4B
										6	6	60	.....			1	12.00	1.07	2	18.86	16.75	1357.92	1C	2C	3C	4C
										7	7	60	.....			1	12.00	1.07	2	18.86	16.75	1584.24	1D	2D	3D	4D
										8	8	60	.....			1	12.00	1.07	2	18.86	16.75	1810.56	1E	2E	3E	4E
Unknown (SLM) 1"	-	2.84	15.6	4	3.85	13.0	1	94.9																		
Stoneville 2B (M) 1-3/32"	-	2.84	15.0	4	4.00	13.0	1	94.9		4	6	40	.....			1	8.02	1.07	2	18.86	16.75	907.64	$1A_1$	$2A_1$	$3A_1$	$4A_1$
										5	6	50	.....			1	10.02	1.07	2	18.86	16.75	1133.86	$1B_1$	$2B_1$	$3B_1$	$4B_1$
									60	6	6	60	.....			1	12.00	1.07	2	18.86	16.75	1357.92	$1C_1$	$2C_1$	$3C_1$	$4C_1$
Wilds 13 (SM) 1-3/32"	-	2.84	15.0	4	4.00	13.0	1	94.9		7	6	70	.....			1	14.02	1.07	2	18.86	16.75	1584.80	$1D_1$	$2D_1$	$3D_1$	$4D_1$
										8	6	80	.....			1	16.03	1.07	2	18.86	16.75	1810.96	$1E_1$	$2E_1$	$3E_1$	$4E_1$
SXP (1-1/2) 1-1/2" 1/	-	2.84	15.6	3	3.85	10.6	1	76.8																		
										4	6	40	.....			1	12.00	2.50	2	12.60	15.75	907.20	$1A_2$	$2A_2$	$3A_2$	$4A_2$
										5	6	50	.....			1	12.00	2.00	2	15.75	15.75	1134.00	$1B_2$	$2B_2$	$3B_2$	$4B_2$
										6	6	60	.....			1	12.00	1.67	2	18.86	16.75	1357.92	$1C_2$	$2C_2$	$3C_2$	$4C_2$
										7	6	70	.....			1	12.00	1.43	2	22.03	15.75	1585.16	$1D_2$	$2D_2$	$3D_2$	$4D_2$
										8	6	80	.....			1	12.00	1.25	2	25.20	15.75	1814.40	$1E_2$	$2E_2$	$3E_2$	$4E_2$
										6	6	60	6	6	60	1	12.00	1.67	2	18.86	16.75	6147.52			Control 2/	

1/ For this cotton an intermediate picking operation was included (doublings 4—draft 4—weight 13.5 oz/yd.).
2/ One control lot was processed for each type of cotton.

Table 2. Machine Settings

Card Settings	Cotton Varieties (Unknown) (SIM) 1"	Stoneville 2B (M) 1-3/32"	Wilds 13 (M) 1-3/8"	SXP (1-1/2) 1-1/2"
Feed Plate - Lickerin	.015	.015	.019	.019
Lickerin - Cylinder	.007	.007	.007	.007
Note Knives - Lickerin				
Top	.015	.015	.015	.015
Bottom	.012	.012	.012	.012
Note Knife Angle	30°	30°	30°	30°
Lickerin Screen to Lickerin				
Back	1/16"	1/16"	1/8"	1/8"
Front	.005 1/	.005 1/	.005 1/	.005 1/
Cylinder Screen to Cylinder				
Back	.022	.022	.029	.029
Center	.034	.034	.034	.034
Front	3/16"	3/16"	3/16"	3/16"
Doffer Screen (Front) to Doffer	1/4"	1/4"	1/4"	1/4"
Front Knife Plate to Cylinder				
Top	.029	.029	.034	.034
Bottom	.022	.022	.034	.034
Flats to Cylinder				
Back	.009	.009	.009	.009
Center	.007	.007	.007	.007
Front	.007	.007	.007	.007
Doffer to Cylinder	.007	.007	.007	.010
Doffer Comb to Doffer	.017	.017	.017	.017
Flat Stripping Comb to Flats	.015	.015	.015	.015
Backle Comb (Penetration)	1/2"	1/2"	1/2"	1/2"
Opening between Back Knife Plate (bottom) and cylinder Screen (back)	2-1/4"	2-1/4"	2-1/4"	2-1/4"
Roll Settings				
Breaker Drawing (Common Top Rolls)				
Front to Second	1-5/16"	1-13/32"	1-5/8"	1-13/16"
Second to Third	1-1/2"	1-19/32"	1-13/16"	2"
Third to Back	1-11/16"	1-25/32"	2"	2-3/16"
Finisher Drawing (Common Top Rolls)				
Front to Second	1-1/4"	1-11/32"	1-9/16"	1-3/4"
Second to Third	1-7/16"	1-17/32"	1-3/4"	1-15/16"
Third to Back	1-5/8"	1-23/32"	1-15/16"	2-1/8"
Long Draft Roving (10 x 5)				
Front to Second	1-3/16"	1-9/32"	1-9/16"	1-11/16"
Second to Third	Standard	Standard	Standard	Standard
Third to Back	1-1/2"	1-19/32"	1-7/8"	2"
Spinning (Casablanca)				
Front to Second	2-1/16"	2-1/16"	2-1/16"	2-1/4"
Second to Third	Standard	Standard	Standard	Standard

1/ Setting at the perforated section of the Lickerin screen to the bottom of the side shells supporting the Lickerin.

er hopper, a four-lap apron, and a Kirschner beater. All of the cotton was processed into finisher laps weighing between 10.5 and 13.5 ounces per yard. Only the SXP cotton received an intermediate picking operation.

(3) **Carding.** The short-staple cotton, (unknown) and Stoneville 2B, were carded on a coarse 40-in. card. The cylinder was covered with 90's clothing, and the doffer and the flats were covered with 100's clothing. The long-staple cotton, Wilds 13 and SXP, were carded on a fine 40-inch card having the cylinder, flats, and doffer covered with 110's clothing. All of the card settings used are shown in Table 2.

(4) **Drawing.** A conventional type drawing frame with metallic bottom and common top rolls was used.

	Dry Bulb	Wet Bulb	Relative Humidity
Opening and picking	75°	65°	58%
Carding	75°	65°	58%
Spinning	75°	68°	70%

(5) **Roving.** An all-purpose roving frame capable of making the required range of hank rovings (1.25 to 2.50) was used. This was a long draft (10 x 5) frame, consisting of four lines of ordinary drafting rolls, two drafting stages (back and front zone), and a combination condenser, folding plate, and guide located between the two drafting sections.

(6) **Spinning.** A long draft (Casablanca system) 4¼-inch gauge frame having a 2¾-inch diameter ring, was used for spinning the yarn. Roll settings used on the drawing, roving, and spinning frames are given in Table 2.

(7) **Twist multipliers.** Roving twist multipliers were estimated by the use of the Duerst Twist Formula[2] and through observations of trial roving tests made on the Belger roving tester.

(The yarn used in this investigation was spun for the manufacture of experimental tire cord, and the spinning twist multipliers were selected according to government regulations for tire cord.)

(8) **Atmospheric conditions.** Atmosphere was controlled as shown in the accompanying box.

Mechanical and related data for all processing machinery are stipulated in Table 3.

All skeins were broken (in accordance with American Society for Testing Materials standards) on a Scott pendulum-type automatic yarn tester of 150-and 300-pound capacities, under standard atmospheric conditions (70°F., with a relative humidity of 65 per cent).

Yarn appearance was graded and judged according to the photographic standards published by the American Society for Testing Materials.

Results

The only striking effect of the draft changes made for these tests was observed during the spinning process. Appreciable increases in draft resulted in marked reduction in skein strength. Draft changes made at drawing and roving frames had no significant influence on strength. With none of

2. Duerst, John. The Duerst Formula. "Cotton," p. 56. January 1939.

the changes was there any effect apparent on yarn grade. Generally, the longer cotton was about one-third grade lower than the shorter cottons. (Perhaps this tendency was due to inherent characteristics rather than to any mechanical changes discussed in this study.)

The effects at the separate processes were confirmed by similar results when total drafts were calculated.

Fig. 1 shows the effects on average skein strength (corrected[3] to 15.75s) of draft changes for drawing, roving, and spinning.

The averaged skein strengths are shown for all the lots of the four varieties of cotton as affected by draft changes during drawing, roving, and spinning. The corrected averages of the control lots are also plotted, and the total calculated drafts are shown.

The statistical data on the four varieties of cotton are given in Table 4. For the proper interpretation of these data, the table includes the coefficients of variation, which had to be calculated because of the wide range of averaged skein breaks and standard deviations. This calculation leveled the indices of dispersion and made possible a comparison of them in respect to the different cottons tested. In addition, a similar calculation was made to test the index of count dispersion—that is, to determine whether there were any unexpected dispersion trends. Averages for the yarn number and skein strength were calculated from 24 observations.

The coefficients of variation (Table 4) for skein strengths in the four spinning groups of cotton indicated that increasing the draft also increased the dispersion interval with the result that objectionably high variations were introduced among skein breaks as the highest draft (25.20) was approached. In every case the shortest spinning draft showed the lowest coefficient of variation (below 3% being considered an index of reasonably even-running yarn).

In respect to their coefficients of variation, the "controls," with their extra doublings and larger total drafts, did not show any apparent improvement in evenness over the other lots. It is of interest that the coefficients of variation of the yarn number were higher for the longer cottons. This indicates that the staple length, or physical properties associated with staple length, contributes at least slightly toward irregularities in this particular yarn number (15.75s). This observation is of further interest when considered in conjunction with the lower grade apparent in yarns spun from the longer cottons.

It should be remembered that the emphasis in this study was on trends rather than on individual observations. The results observed on a coarse-count yarn cannot necessarily be assumed to apply to yarn of finer count.

The fact that the averaged skein strengths of the unknown (SLM) 1-inch cotton were generally stronger than those of the Stoneville 2B (M) 1-3/32-inch cotton is not of necessity favorable to the shorter cotton. With reasonable certainty, it can be assumed that this apparent irregularity was caused by the respective spinning twist multiplier used on these two varieties of cotton.

The multiplier of the shorter cotton approaches much more closely the theoretical maximum skein strength twist multiplier

Table 3. - Mechanical and Related Data

Processes	Cotton varieties: (Unknown) (SLM) 1-1/8"; Stoneville 2B (M) 1-3/32"; Stoneville 13 (SM) 1-3/8"; SJR (1-1/2") 1-1/2"			
Opening				
Spiralwhirl Beater rpm	530	530	530	---
Downstroke Beater rpm	535	535	535	535
Breaker Picking				
Beater rpm (Kirschner)	930	930	930	930
Fan rpm	1205	1205	1140	1140
Lap Roll rpm (9" Diameter)	9.5	9.5	9.5	9.5
Blows per inch	36.8	25.0	27.7	41.5
Intermediate Picking (3 doublings)				
Beater rpm (Kirschner)	---	---	---	930
Fan rpm	---	---	---	1140
Lap Roll rpm (9" Diameter)	---	---	---	9.5
Blows per inch	---	---	---	41.5
Finisher Picking (4 doublings)				
Beater rpm (Kirschner)	930	930	930	930
Fan rpm	1205	1205	1140	1140
Lap Roll rpm (9" Diameter)	9.5	9.5	9.5	9.5
Blows per inch	44.3	39.9	29.1	35.8
Carding				
Cylinder rpm	175	175	175	175
Lickerin rpm	435	435	425	330
Doffer rpm	8.0	8.0	6.5	5.5
Flats in/min.	3.25	3.25	3.25	3.25
Breaker Drawing (Common Top Rolls)				
Front Roll rpm (1-1/8" Diameter)	330	330	330	330
Trumpet Setting	1-1/16"	1-3/16"	1-7/16"	1-9/16"
Trumpet Diameter (gage)				
Sliver Weight ... 40 gr/yd.	21	21	21	21
" " ... 50 " "	23	23	23	23
" " ... 60 " "	25	25	25	25
" " ... 70 " "	26	26	26	26
" " ... 80 " "	26	26	26	26
Finisher Drawing (Common Top Rolls)				
Front Roll rpm (1-1/8" Diameter)	330	330	330	330
Trumpet Setting	1-1/16"	1-3/16"	1-7/16"	1-9/16"
Trumpet Diameter (gage)	No. 24	No. 24	No. 24	No. 24
Long Draft Roving (10 x 5)				
Front Roll rpm (1-1/8" Diameter):				
Hank Roving 1.25	184.0	198.0	288	324
" " 1.43	175.0	185.0	265	297
" " 1.67	152.5	171.0	239	269
" " 2.00	145.0	157.5	216	209
" " 2.50	126.5	140.0	185	202
Twist Multipliers:				
Hank Roving 1.25	1.07	1.00	.70	.63
" " 1.43	1.07	1.00	.71	.64
" " 1.67	1.13	1.00	.74	.64
" " 2.00	1.10	1.00	.74	.66
" " 2.50	1.19	1.03	.78	.70
Spindle rpm	800	800	800	800
Spinning (Casablanca)				
Front Roll rpm (1" Diameter)	148.4	163.0	178.5	163.0
Spindle rpm	6500	5700	5700	5700
Frame Gage	4-1/4"	4-1/4"	4-1/4"	4-1/4"
Ring Diameter	2-3/4"	2-3/4"	2-3/4"	2-3/4"
Traveler Number (Victor)	No. 5-3DR	No. 4-3DR	No. 4-3DR	No. 4-3DR
Twist Multiplier	3.50	2.75	2.50	2.75
Twist Direction	Z	Z	Z	Z

3. Campbell, Malcolm E. An Improved Method for Converting an Observed Skein Strength of Cotton Yarn to the Strength of a Specified Count. Circular No. 413, U. S. D. A., p. 10.

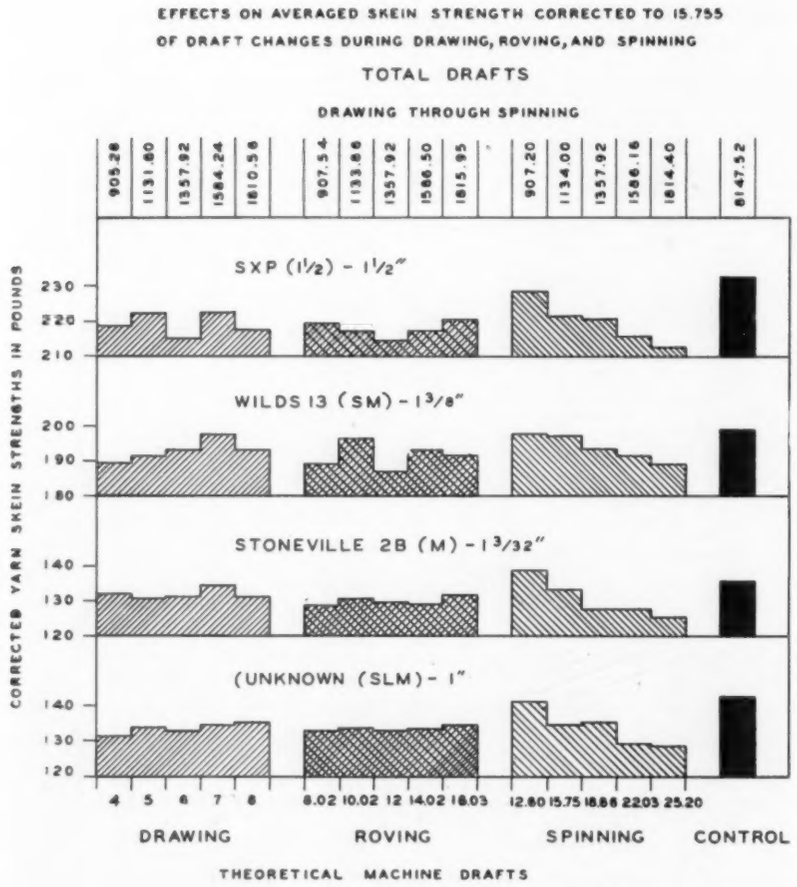


Fig. 1. Effects on averaged skein strength.

than does the multiplier of the longer cotton; therefore, the difference in skein strengths favoring the shorter cotton is misleading, and was caused by the twist of the yarn rather than by any particular fiber characteristic.

The effect of draft changes observed during spinning was confirmed by statistical analysis which proved the difference in strength to be an actual one rather than one of chance (Table 5).

This table presents further evidence that in every series and with all the cotton studied, the difference between high and low averaged skein strengths was reasonably certain to be pronounced. In every case the actual difference was more than three times the standard error of the difference. Even though statisticians differ in their interpretation of the magnitude of the statistical relationship, the result observed here should be construed as being at least statistically "significant."

Conclusions

With skein strength and yarn grade the only considerations, draft changes had these effects.

(1) Spinning drafts of 12 to 25 showed an effectual trend with skein strength. They varied inversely with the respective drafts, but had no visible effect on yarn grade.

(2) Drawing frame drafts of 4 to 8, with simultaneous doublings of 4 to 8, had no significant influence.

(3) Roving frame drafts of 8 to 16 did not appreciably affect strength or grade.

(4) The yarn spun from the control lots, using two drawing processes, did not show any appreci-

Table 4. Yarn appearance, skein strength, and variation in number and strength of 15.75s yarn spun from selected cottons using specified doublings and drafts

ORGANIZATIONAL PLAN			SKEIN STRENGTH 2/				COEFFICIENTS OF VARIATION (V)								YARN APPEARANCE 3/			
							Number				Skein Strength							
Process	Doublings	Variable drafts 1/	(Unknown)	Stoneville 2B	Wilds 13	SXP	(Unknown)	Stoneville 2B	Wilds 13	SXP	(Unknown)	Stoneville 2B	Wilds 13	SXP	(Unknown)	Stoneville 2B	Wilds 13	SXP
			Pounds				Percent				Percent				Grade			
Drawing	4	4	131.88	132.00	109.22	218.44	1.23	2.05	1.94	1.57	3.72	2.88	3.48	3.36	A-	B+	B+	B+
"	5	5	133.97	129.22	191.73	222.13	1.41	1.41	2.17	1.48	3.36	4.08	3.38	3.54	A	A-	B	B
"	6	6	133.00	131.46	192.84	214.73	1.12	1.47	3.13	2.46	4.02	5.65	3.41	2.84	A	A	B	B+
"	7	7	134.62	134.29	197.64	222.39	1.43	2.21	2.43	2.09	3.97	2.59	3.10	2.93	A-	A-	B	B+
"	8	8	135.22	131.04	192.90	217.61	1.27	1.78	1.71	2.41	4.41	3.42	3.32	4.99	A-	A-	B	B
Roving	1	8.02	133.12	128.66	187.18	219.98	1.86	1.79	1.92	4.41	4.36	2.80	3.68	4.06	A-	A-	B+	B+
"	1	10.02	133.71	130.61	196.15	217.04	1.87	1.80	2.08	3.18	5.38	3.36	2.58	5.98	A-	A-	B+	B+
"	1	12.00	133.26	129.27	186.91	214.49	1.60	1.38	1.77	2.70	5.46	3.97	5.74	3.56	A-	A	B	B
"	1	14.02	133.33	129.18	193.12	217.50	1.16	1.29	1.83	2.10	5.75	4.36	3.39	2.93	A-	A-	B	B+
"	1	16.03	134.22	131.47	191.82	220.35	1.07	1.33	2.34	2.35	3.82	3.94	4.73	3.34	B+	A-	B+	B+
Spinning	2	12.60	141.35	138.27	197.59	228.35	1.96	2.35	1.62	2.40	2.39	2.82	2.57	2.88	A	A-	B+	A-
"	2	15.75	134.51	133.15	196.70	221.52	2.24	1.54	1.63	2.33	5.70	3.99	3.52	3.61	A-	B+	B+	B+
"	2	18.86	135.44	127.64	193.48	220.88	.97	1.70	1.46	1.38	4.54	4.05	2.84	3.18	A-	B+	A-	B
"	2	22.03	129.05	127.64	191.36	215.94	1.77	1.04	1.70	2.04	4.65	4.23	3.00	4.52	A-	B+	B+	A-
"	2	25.20	128.97	125.20	188.93	212.28	1.94	1.16	1.62	2.36	5.67	5.56	4.46	3.89	B+	B+	B+	B+
Control 4/			142.96	135.70	198.62	232.25	2.47	.92	1.58	1.77	4.94	4.40	3.95	5.12	A-	A-	A-	B+

1/ Constant drafts were: Drawing 6; roving 12.00; spinning 18.86.
2/ Based on averages computed from 24 observations and corrected according to Malcolm E. Campbell's formula for converting an observed skein strength of cotton yarn to the strength of a specified number.
3/ In accordance with yarn appearance standards of American Society for Testing Materials.
4/ Drafts were: Breaker drawing 6; finisher drawing 6; roving 12.00; spinning 18.86

Table 5. Corrected averaged skein strengths with statistically significant differences for the spinning group of the 4 types of cotton (24 observations taken for each test).

Lot Numbers	Highest Mean	Lowest Mean	Differences between Means	Standard Error of the Differences	3 Times the Standard Error of the Differences 1/
Unknown) (SLM)-1"	141.35	128.97	12.38	1.67	5.01
Stoneville 2B (M) 1-3/32"	138.27	125.20	13.07	1.72	5.16
Wilds 13 (SM) 1-3/8"	197.59	188.93	8.66	2.05	6.15
SXP (1-1/2) - 1-1/2"	228.35	212.28	16.07	2.20	6.60

1/ For means which differ by more than three times the standard error of their difference, there is less than 1 chance in 100 that the difference was due to sampling variation.

able gain in strength or improvement in grade over yarn processed with only one drawing process.

Summarizing briefly, this investigation offers evidence that increases in draft on drawing (4 to 8) or roving frames (8.02 to 16.3) do not affect materially the strength or grade of a coarse yarn. On the other hand, increases in spinning drafts (12.6 to 25.2) result in significantly lower skein strengths, but have little or no effect on the grade of the yarn. The study confirms the original purpose of long draft spinning, namely: the introduction of "controlled" drafting during spinning, and it demonstrates the futility of indiscriminate drafting in this process.

The author expresses indebtedness to John J. Brown of the Cotton Processing Division for his invaluable supervisory services during the performance of the experiments described herein. Thanks are also due many members of the Cotton Processing Division, including the Testing Section, for their assistance in processing the cotton into yarn and in interpreting the data.

1948 Rayon Shipments Exceed 1947 Figures

April shipments of rayon yarn and staple amounted to 89,500,000 pounds, slightly below March deliveries but 14 per cent above those of April 1947, according to the May *Rayon Organon*, statistical bulletin of the Textile Economics Bureau, Inc. Total shipments in the first four months of 1948 totaled 352,700,000 pounds, a 16 per cent increase over the corresponding figure last year.

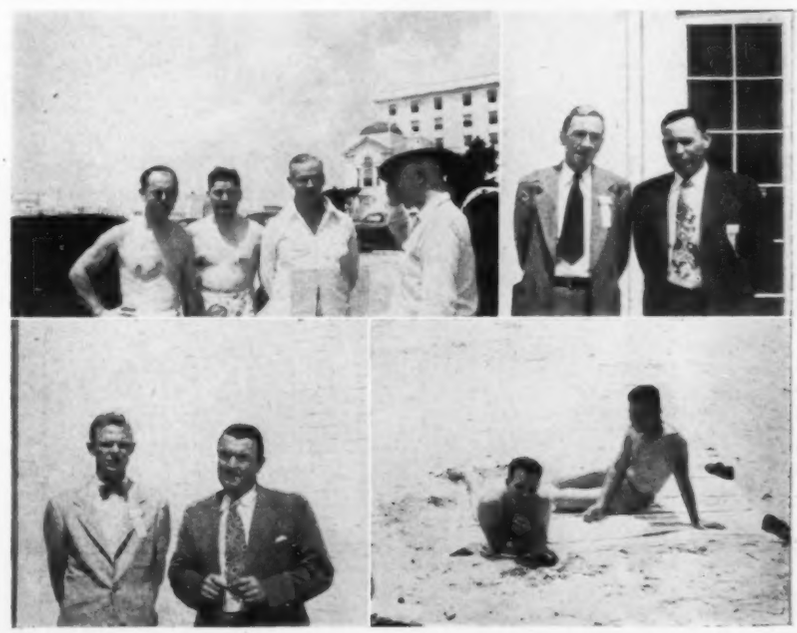
Shipments of filament yarn in April amounted to 67,200,000 pounds, 12 per cent more than in April 1947. By yarn types, 44,600,000 pounds were viscose+cupra and 22,600,000 pounds were acetate.

Rayon staple and tow shipments in April totaled 22,300,000 pounds, 22 per cent more than the corresponding month last year. Viscose staple amounted to 14,900,000 pounds and acetate staple 7,400,000 pounds. Aggregate shipments of staple in the first four months of the year amounted to 88,300,000 pounds, 37 per cent more than a year ago.

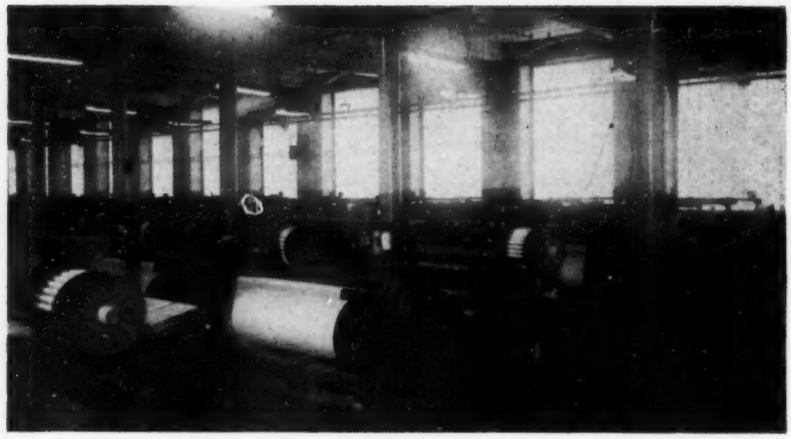
The *Organon's* analysis of domestic output of all types of rayon in the first quarter of the year reveals the advance to new record levels of production. Output in the first three months amounting to 268,300,000 pounds was 16 per cent higher than a year ago and 3 per cent higher than the preceding quarter. This represents the seventh consecutive quarter that the industry has established a new quarterly output record.

If the first quarter 1948 output is maintained for the balance of the year, an annual production of well over 1,000,000,000 pounds is in prospect. The billion-pound figure takes on added meaning, the *Organon* points out, when it is realized that only seven years ago, the industry was producing only one-half the current rate.

Mill men and suppliers relax at the Myrtle Beach, S. C., convention of Southern Textile Association (story page 99). In photo at upper left, group from Armstrong Cork delegation; left to right Ted Hill, W. T. Coker, Bill Tucker, and "Red" Ashley. Upper right, R. E. Lindsay of Saco-Lowell and Jesse James of Erwin Cotton Mills. Lower left, James A. Chapman, Jr., Riverdale Mills, Enoree, S. C., and Falls Thomason of N. Y. & N. J. Lubricant Co. Lower right, Perry Clanton of Saco-Lowell and Joe Oliver of Stodghill & Co.



Evaporative Cooling System at Marion Mfg. Co.



Atomizers are located on two levels as shown in this view of the weave room.

MODERNIZATION of the plant humidifying system has been completed recently by the Marion Mfg. Co., located at Marion, N. C. An evaporative cooling system has been installed, and glass block windows have been used to replace the old type conventional window lights. Intake and exhaust rainhoods spaced proportionally at the window openings, and new glass block windows give a practical, "new look" appearance to the mill.

The ductless evaporative cooling unit has a damper motor located at the bottom of the unit. This motor operates in conjunction with the room thermostat to actuate the fresh air and recirculated air louvers. The amount of air admitted or expelled by the system is controlled by adjusting the mechanism that operates the air louvers.

The air mixture is drawn into a unit which expels it through the air diffuser into the room. The air diffuser is located in front of the propeller fan which runs continuously to distribute the air uniformly throughout the area. The new installation has eliminated the need for duct work of any type.

Evaporation is provided throughout the area by means of two levels of atomizers operated by compressed air. The lower level atomizers are approximately eight feet, six inches above the floor level. This arrangement is said to offset the heat produced by operating machinery. This heat is distributed evenly throughout the area.

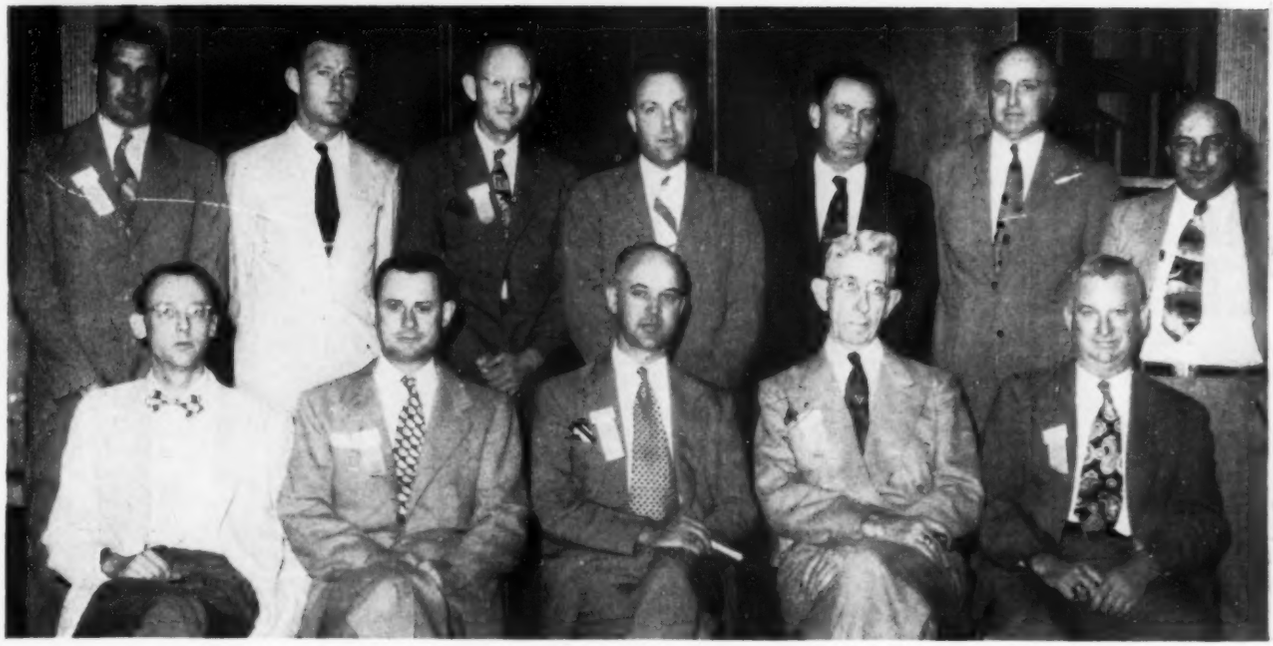
The second level atomizers are located closer to the ceiling to deliver moisture directly into the fresh air stream that is impelled by the cooling unit.

The rate of evaporation is effectively controlled by humidistats that are distributed throughout the room. The control of the automatic ventilating unit by the room thermostat is an entirely separate function.

Large quantities of fresh air brought into the area allows evaporation of a greater quantity of water without raising the humidity above the amount desired for good operating conditions. More even cooling is effected, and a lower temperature results from this type of cooling.

The modern appearance of the exterior and the intake and exhaust rainhoods for the evaporative cooling system may be seen in this view of the mill building.

Photos courtesy, American Moistening Co.



Association officers at Myrtle Beach meeting. Seated, left to right: J. T. McAden, secretary and treasurer of STA ("Textile Bulletin"); Earl Crenshaw, chairman of the board of governors (Springs Cotton Mills); R. T. Stutts, president of STA 1948-49 (Woodside Cotton Mills, Fountain Inn, S. C.); Smith Crow, vice-president STA (Erlanger Mills, Lexington, N. C.); and Virgil McDowell, retiring president of STA and executive secretary 1948-49 (Rosemary Mfg. Co., Roanoke Rapids, N. C.)

Standing, left to right: J. B. Powell, Erlanger Mills, Lexington, N. C.; T. I. Stafford, Clifton (S.C.) Mfg. Co.; D. A. Purcell, Fieldcrest Mills; A. R. Marley, Erwin Cotton Mills, Durham, N. C.; J. L. James, Erwin Cotton Mills, Cooleemee, N. C.; D. L. Thomas, Springs Cotton Mills, Fort Mill, S. C.; and Jean Boseman, Dan River Mills, Danville, Va.

STA Holds Annual Outing

THE 39th annual convention of the Southern Textile Association was held at Myrtle Beach, S. C., May 20-22.

R. T. Stutts of Woodside Cotton Mills was elected president for the ensuing year, succeeding Virgil E. McDowell. Under the new bylaws, Mr. McDowell becomes executive-secretary for one year.

Smith Crow of Erlanger Mills was elected vice-president, and Earl Crenshaw of Springs Cotton Mills was elevated to chairman of the board of governors.

Lower left, scene at speakers table during convention. In the foreground, P. G. (Rip) Wear of Penick & Ford, chairman of the Associate Members division; Smith Crow and Mrs. Crow. Lower right, Virgil McDowell, retiring president of STA, is presented the President's Medal by E. C. Horner of Odell Mfg. Co.

Rub Aprons on Woolen Cards

—Their care and adjustment

By WILLIAM J. CROFTS

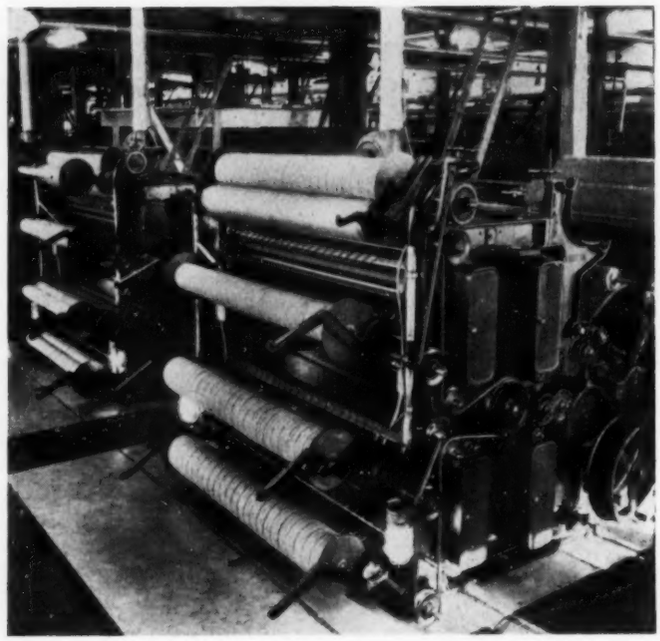


Photo courtesy, U. S. Radium Corp.

These double apron, four bank tape condensers are equipped with static eliminators located at a point in front of the rub aprons in order to remove the troublesome static electricity from the roving before it is wound on the spools.

IN WOOLEN carding, it is very important that the flat gauze-like ribbons coming from the tapes or rings, as the case may be, shall be rubbed and formed into smooth, round roving ends, free of soft or hard spots. A soft place will not get its share of the twist, making a weak spot; and in the case of a hard spot, it gets too much twist making a brittle spot. For these reasons the woolen carder needs good rub aprons in order to get good results.

A rub apron when in position should present a flat, even surface free of waves or wrinkles and should offer plenty of drag to the fingertips when passed lightly over the surface. Leather rub aprons were the only satisfactory type available until recently when synthetic rubber aprons were developed and introduced to the industry. It is the purpose of this article to discuss impartially the merits of both types of aprons and also to make some suggestions regarding the problems of condensing.

Carefully selected leather, evenly tanned so that it is free of "kiss" marks, makes an apron that will give excellent service. These so-called "kiss" marks are spots or streaks on the leather that are not sufficiently tanned and appear where hides touch each other in the tanning solution. Aprons made from leather containing these marks soon develop hard, glazed streaks and areas, causing uneven condensing.

A soft-tanned leather that will not glaze is desirable. It has more traction, will absorb more apron oil and hold it longer, resulting in fewer interruptions in production for purposes of oiling and conditioning the surface.

Splicings, if not straight and even, will cause waves and wrinkles in leather when under tension. At the same time, an excessive amount of cement makes a hard, narrow streak across the apron. Both of these defects are objectionable since they cause uneven rubbing of the slivers.

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Synthetic rubber aprons, when clean, have more traction than leather, have no splices and, if carefully made, present a flat surface for good condensing. Synthetic rubber aprons will not stretch, and this factor must be considered in the specifications when ordering.

While these aprons have a desirable, soft surface, the rubber seems to catch and hold short lint, sediment, loose dyestuff, bleaching powder, etc., much more so than leather, forming a coating on the apron which materially reduces traction and condensing. However, since this coating is all on the surface, the aprons can be easily cleaned with oil and condensing efficiency fully restored. The oil does not penetrate the rubber to any great extent but softens the surface, restoring the original traction.

Intervals for Cleaning

The interval between oilings or cleaning depends largely on the nature of the stock being processed. With clean white stock the aprons might go several shifts before cleaning is necessary, whereas with a dyed stock the aprons

might need cleaning every two shifts. The lower grades of stocks have more short lint, greasy sediment, etc. Consequently, the cleaning should be done at closer intervals, depending on the condition of the aprons.

The round roving ends between the aprons act as rollers much like the rollers in a roller bearing. When the aprons are empty the traction increases to such an extent that the eccentric drive belt slides on the pulley and becomes very hot; hence it is best to remove this belt while oiling the aprons to preserve the belt from this grueling punishment.

Effect of Oil Emulsion

The oil emulsion used on the stock has an important bearing on the condition of the aprons, whether they be leather or rubber. A rich, oily emulsion will normally keep the aprons in excellent condition, making periodic oiling and cleaning unnecessary, but as a matter of economy the majority of woolen mills today are using a thin emulsion with insufficient oil to have much cleaning or softening effect on condensing aprons and tapes.

Mineral oil has a deleterious effect on leather. Consequently an animal oil should be used on leather rub aprons to prolong the life of the leather. Synthetic rubber aprons seem impervious to any kind of oil and do not appear to be injured to any noticable extent by it. However, the leather tapes must be considered. Therefore a good animal oil is recommended—one that will wash out easily and thoroughly from the finished fabric. Rubber requires less oil for cleaning.

Creeping

One of the most common criticisms of synthetic rubber aprons is their perverse habit of leading or creeping to one side, ripping off the buttons against the shoulder of the rub roll and damaging its twin apron. Leather aprons do the same, but the leather holds the buttons better and checks any further creeping. Perhaps in the case of synthetics a reinforcement at the buttons, such as short pieces of wire or narrow strips of metal laid in the rubber somewhat on the order of reinforced concrete, or a doubling of the fabric at the ends to prevent the buttons ripping out so easily, might solve this problem.

Let's consider a rub apron as a belt. It really is a belt and a very wide one too, being anywhere from 54 to 78 inches wide depending on the width of the card. If this apron or belt is stretched tight, heavy pressure is exerted on the small apron roll which, because of its small diameter together with the wide span between bearings, springs quite easily into the form of a bow, making two crowns, one at each shoulder. The apron naturally creeps to the highest crown just as a belt creeps to the crown of a pulley. A tight apron will form waves in the center, but these disappear when extreme tension is relaxed to normal.

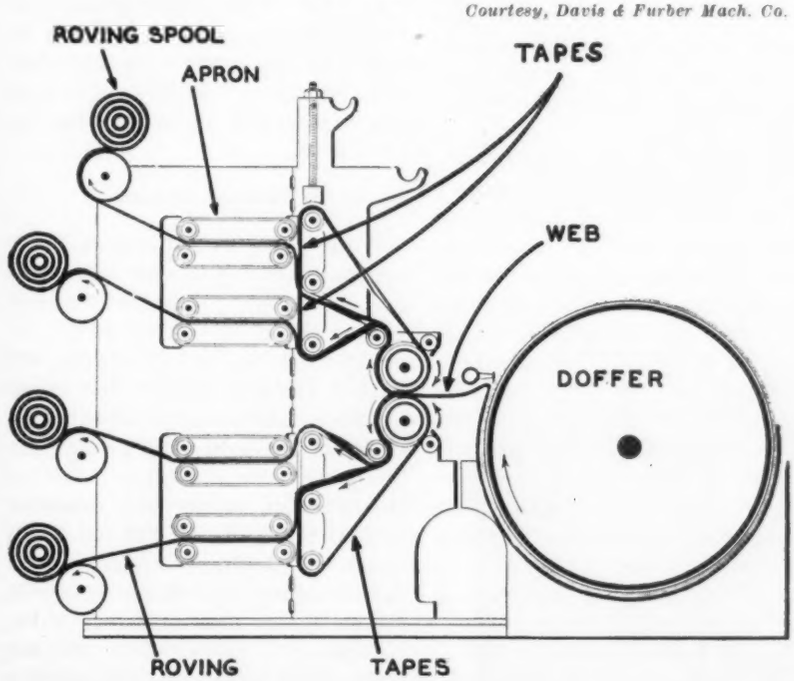
The apron rolls are turned off flat. It is possible that a short radial crown of .01 of an inch at the centers might help and would not be objectionable since undoubtedly the rolls give or spring that much at the center under pressure from the roving ends. When the shoulders of the rolls are rounding, it is a good practice to turn off the side walls in a lathe until the shoulders are square, affording firmer resistance to the buttons to check creeping.

After a carder has made the usual adjustments in an effort to check creeping and the apron does not respond, reversing the apron end for end will often remedy the situation. The writer has tried this many times with synthetic aprons with all buttons ripped out of one end. Satisfactory results were obtained in each instance, indicating that the apron rolls were at fault rather than the aprons themselves.

The shoulders of the rolls, both driving and driven, should always be in alignment. The tape condenser rub motion assembly is not quite as rigid as the slide type on ring condensers. Any rub apron made slightly larger or more open at one end will lead or creep to the open side. The carder can detect any difference from end to end by simply wrapping a paper ribbon around one end of the apron, overlapping the ribbon, and cutting across the overlap; then using this, measure to check center and opposite end. This will show any difference, however slight. This is a severe test, but a small difference in size will cause creeping.

It is essential that aprons on single apron condensers, such as the one shown diagramatically here, be maintained in first class condition since there is only one opportunity for the slivers to be rubbed.

Courtesy, Davis & Furber Mach. Co.



Rub Aprons on Woolen Cards

—Their care and adjustment

By WILLIAM J. CROFTS

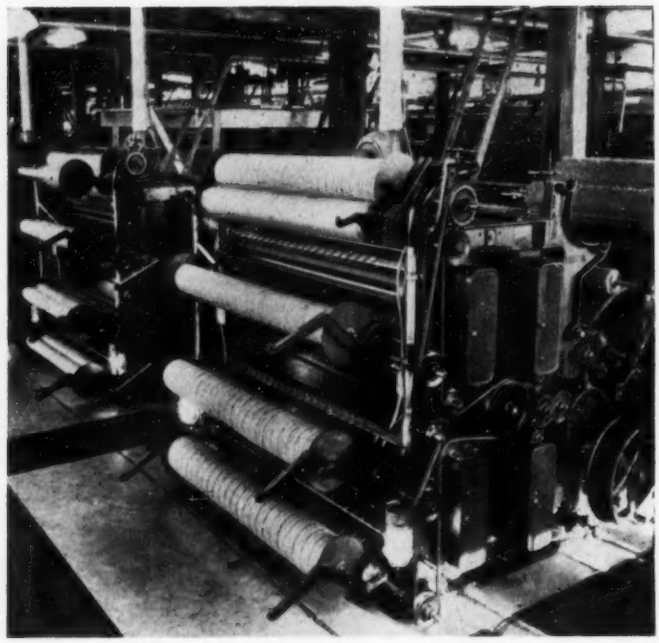


Photo courtesy, U. S. Radium Corp.

These double apron, four bank tape condensers are equipped with static eliminators located at a point in front of the rub aprons in order to remove the troublesome static electricity from the roving before it is wound on the spools.

IN WOOLEN carding, it is very important that the flat gauze-like ribbons coming from the tapes or rings, as the case may be, shall be rubbed and formed into smooth, round roving ends, free of soft or hard spots. A soft place will not get its share of the twist, making a weak spot; and in the case of a hard spot, it gets too much twist making a brittle spot. For these reasons the woolen carder needs good rub aprons in order to get good results.

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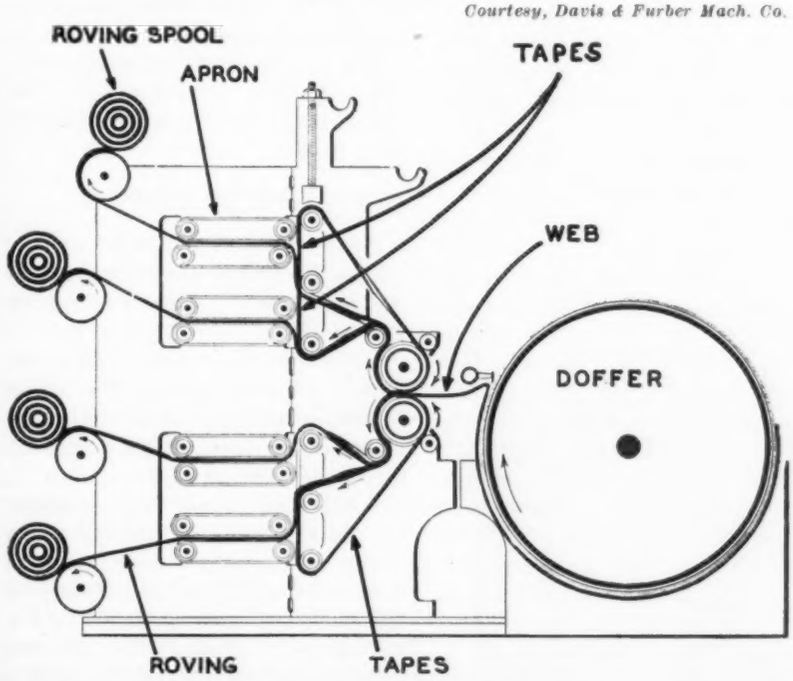
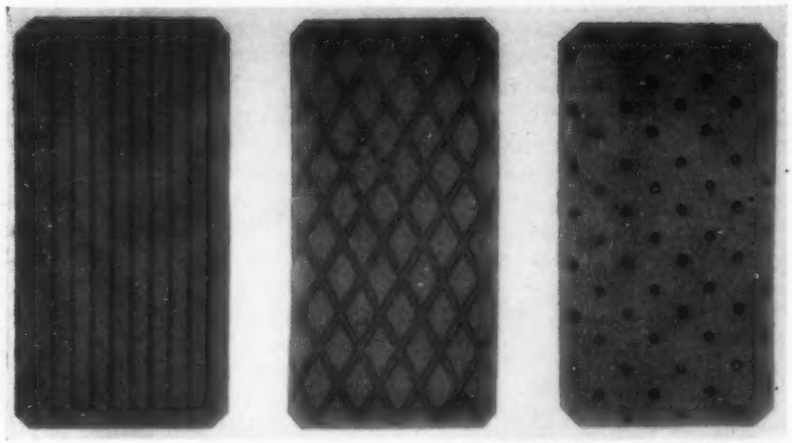




Courtesy, Davis & Furber Mach. Co.

Samples of leather rub aprons. From left to right, circular grooved, diamond cut, and round perforations.

Synthetic aprons generate less static, but wherever there is friction in conjunction with any animal fibers combined with atmospheric conditions that are favorable, there will be static unless steps are taken to control this evil which plagues woolen card rooms.

The diameter of rub apron rolls is about 2 5/16 inches. Rub aprons continually and alternately making this sharp bend and then straightening out, take a beating that few belts have to withstand. Synthetic aprons take this punishment remarkably well, retaining their soft surface for a long time.

Care of Aprons

If for any reason a card equipped with synthetic aprons is to stand idle for several days or weeks, the aprons should always be thoroughly cleaned with oil to prevent the coating of sediment becoming set in the rubber, or else much of the condensing efficiency may be temporarily or even permanently lost unless heroic measures are taken. Direct sunlight, either through clear glass or an open window, should never be permitted to strike the rubber when a machine is idle. Even refracted or strong light can be injurious. At the front of the condenser where the aprons bend around the front rolls is the point where the most damage occurs. A strip 3 or 4 inches wide across the apron changes color from its natural tan to a reddish clay, and the surface becomes glazed, feeling smooth and slick to the touch. This will make soft, flat strips in the roving ends that will not spin to a firm yarn. This condition of aprons can be remedied by rasping off the glazed surface with a flat coarse file or by using a piece of fine card clothing to scratch off the glaze. A hand card is unsatisfactory for this purpose.

If aprons, either rubber or leather, become chilled during the week-end shut down or if humidity is lacking so that aprons become too dry, the condensing efficiency is seriously impaired. Two or three hours are oftimes required for aprons to become sufficiently warm by their own friction to attain full condensing. Yarn tests are adversely affected by this condition.

The single apron condenser—one pair of aprons per each deck—has only one chance at rubbing the slivers evenly, and any waves or glazed areas on aprons show up with unevenly rubbed roving ends. This type of condenser needs aprons of absolutely uniform texture throughout and the surfaces of the aprons should be kept in top condition to get top performance. With the double rub apron condenser which has two pairs of rub aprons, the front apron rectifies to a certain extent any defective condensing done by the initial pair. Therefore, a more evenly condensed roving is the result.

Some carders deem it best to set rub aprons open or loosely at the point where the flat unrubbed slivers enter the aprons, gradually setting closer all the way out to delivery point. The reason for this is somewhat obscure. Why sacrifice one-third of the contact area when the object sought is maximum condensing? Only full and even contact with the entire working surface will accomplish this purpose.

Setting Rub Aprons

When setting rub aprons, use a No. 26 woolen card gauge, holding it parallel to the length of apron and rolls rather than at right angles. In this way each pair of rolls can be more easily gauged to the same pressure. It is best to release the pressure of the middle or tension rolls in order to get accurate settings of each pair of twin rolls. After these two pairs of rolls are adjusted properly at both ends with the No. 26 card gauge, the middle rolls should be adjusted to take up sag of the apron midway between its rolls.

Never set aprons so close or under such pressure that the leather or rubber heats from friction. This soon destroys the surface finish and traction, thereby reducing condensing efficiency. If more condensing is needed, it is best to lengthen the stroke of or increase the speed of the eccentrics. On ring condensers, the length of the stroke is limited to width of the space between rings and on tape condensers to the space between tapes leading to each deck.

Grooved Aprons

After long and severe use, aprons become grooved from contact with roving ends. The aprons can be taken off, set up in a floor grinder and the ridges ground off with a grinding wheel. The value of this practice is doubtful, however, as the soft, finished surface has been lost and also much of the traction. A careless operator can be the cause of damage to an apron by allowing a broken end to form a heavy lap around the apron which exerts such pressure that a permanent groove is formed around the surface, resulting in a soft roving end until that apron is replaced.

Alabama Men Cite Experiences with

Separate Warp Lubrication

Benefits derived from application of centralized lubrication systems to existing machinery were given. Hot-air drying units for slashers discussed.

Staff Report

ALABAMA Textile Operating Executives met in Duncan Hall at Alabama Polytechnic Institute, Auburn, Ala., on May 15th to discuss slashing and weaving practices. A. D. Elliott of Huntsville Mfg. Co., general chairman, presided.

Twelve questions on slashing and weaving were selected by the executive committee. These questions were submitted to the mills throughout the state for study prior to the meeting. A number of written answers to the questions were received from the mills through the mail.

The discussion meeting began after a brief address on "Collectivism vs. Individualism" which was given by J. W. Mustin, Jr., counsel for the Gulf States Paper Corp., Tuscaloosa, Ala. Mr. Mustin emphasized the importance of individualism in our democracy as compared with collectivism and communism.

The discussion on slashing was conducted by T. S. Harris, Russell Mfg. Co. C. H. Moody, Dwight Mfg. Co., led the discussion on weaving.

Synthetic Squeeze Rolls

Few mills reported experience with rubber or synthetic squeeze rolls on slashers. One mill stated that synthetic rolls did not prove satisfactory in every application, but they worked well for the finisher roll. His mill experienced trouble with sticking, collecting foreign matter, and applying too much size. After 10 months use, the roll was found to be worn at the selvages. The roll was then removed, redressed, and put on the back as a starting roll where it has given good service since 1946. This mill used 480 pounds of weight on the roll.

The advantages set forth for the roll were: better and more even size penetration, easier to cover, more economical, more production, and better quality work from the slasher. According to this mill, the principal advantage was the long life of the roll.

A visitor expressed satisfaction and very good results by covering rubber squeeze rolls with a wool sock.

Another mill man reported using synthetic rolls for the breaker roll on five slashers. They were very satisfactory for the first roll and have not been dressed after 14 months of use. This report stated that the rolls were paying for themselves. A roll weighing 450 pounds was used with no additional weight.

One mill experienced good results after increasing the weight on the roll by using hydraulic pressure.

Another experience revealed unsatisfactory results on the finisher roll. This mill is now using synthetic back rolls, but reported that cleaning was necessary because the rolls picked up fly and foreign matter. It was stated that these rolls had a tendency to pit badly and that they did not dress like other rolls, but one third of the cost of wool yarn consumed in covering the back roll was saved.

Two other mills reported experience with synthetic rolls. One of these revealed excessive shedding at the loom and at the slasher due to the rollers not squeezing out the excess size. The other mill is using synthetic rolls on both front and back. They complained of rolls blistering and plugs coming out. One front roll had to be burnished because of uneven diameter.

T. S. (Tom) Harris, Russell Mfg. Co., Alexander City, Ala., led the forum on slashing.

Drying Warps with Hot Air

Only two mills reported experience with the application of hot air as a warp drying medium. (For details of hot-air warp drying see TEXTILE INDUSTRIES, December, 1947, page 99, and April 1948, page 175.) No unsatisfactory experience with this method of drying was reported.

Variable Speed vs. Conventional Slasher Drives

In answer to a question regarding a comparison of results obtained through the use of variable speed drives and results from conventional drives, eight mills sent in written answers. Few comments on this subject were forthcoming during the meeting.

According to the answers given,

C. H. Moody of Dwight Mfg. Co., Alabama City, Ala., led the discussion on weaving. He was elected general chairman of the Alabama Textile Operating Executives.

three mills indicated more yarn was being put on each beam with variable speed drives. Three mills had noticed no difference—two had made no check.

Two answers stated that better control was maintained in stopping and starting, two had no trouble with variable-speed drives, two had some trouble which was remedied, one had trouble which had not been remedied, and one was getting good results and had no other comments.

Five mills revealed better results in weaving, two stated that no difference was in evidence, and one had made no check on results.

One of the mills reporting trouble stated that the drive accelerated too fast. This snatched the beams in the creel and caused too much slack so they are now using belt drive.

Size Viscosity Meters

Mills using size viscosity meters were asked to name the types used and to tell what benefits were derived from their use. The answers given both written and oral were as follows:

Mill No. 1. Using GE Nos. 2, 3, and 4. Corn and potato starch is used from several different manufacturers, and the meters are used to test fluidity for comparison. Constant checks are made with the viscosity meters to see if the fluidity of the different starches is reasonably the same. We have found No. 4 orifice best suited for our starches. The benefits from a check of this type would show whether or not the fluidity of the starches is different.

Mill No. 2. We have a plunger type viscosity meter and have found it to be very beneficial in keeping our size at the same viscosity. The meter shows any change in fluidity of different formulas and errors made in cooking or faulty size box controls. It is also useful in checking size left in storage kettle overnight. We use the meter on our first slasher and check the remainder from this one. An installation is to be put on our storage kettle. Our size shows a reading of 30 on the viscosity meter. The amount of added weight put on the yarn at this reading is 16½ per cent.

Mill No. 3. We have used a flow type viscosimeter. It is good for making a comparison between one size mix and another. It is awkward to handle, hard to clean, and the size in the meter quickly congeals when it is lifted from the size box. This causes the orifice to become clogged. The viscosity meter serves in checking the viscosity of the size mix at regular intervals. We do not feel that it is important to make routine checks on viscosity.

Mill No. 4. We are using a Norcross viscosity meter but have not made close checks to determine ultimate benefits to be derived.

Mill No. 5. We have one Norcross viscosity meter which is satisfactory. We are able to determine the range of variation and viscosity with this instrument.

Six mills reported no experience with viscosity meters. One stated that they were using a flow type viscosity meter. This mill did not give any details of benefits derived from the use of the instrument.

Counting Slasher Leases

It was the consensus that it is more desirable to count slasher leases from the front than to count from the back. Twelve mills submitted written answers to this question, and ten of these counted leases from the front. One mill counted from the back, and one used a striking comb but did not give any further details.

The advantages given for counting from the front are as follows:

1. More convenient to the operator.
2. Less time required allows labor factor to overcome any additional waste that may occur.
3. Straighter lease.
4. Better running sets.
5. Prevents breakage on lease rods.
6. If count is made at back, ends may cross or roll as they move to the front.
7. Less waste.
8. Fewer breaks in slasher comb due to yarn being parallel when it enters comb.
9. Better overall results.

The mill that reported counting from the back stated that the advantages were less waste and better running. Several mills that were counting from the front mentioned that it was possible to save waste by counting at the back.

During the discussion at the meeting, a representative from one mill stated that his firm employed a method whereby the lay-in was done at the front and counting was done at the back. The warp was straightened and the ends from each beam were laced and transferred to the front for a check. The lacing could be removed when the ends reached the front.

Foam in Size Box

Several differences of opinion were expressed regarding the best method of preventing foam in the size box. Three reports recommended the use of calcium chloride in the size mix to prevent foaming. One mill recommended the addition of one pound of calcium chloride per 100 gallons of size mix. Another mill stated that

too much calcium chloride was the cause of foam in the size box. Several mills were using sulphonated oils, beef tallow, and commercial anti-foam agents with varying degrees of success.

Proper regulation of the cooking temperature of the size mix was set forth as an important factor in preventing foam. Several mills that had experienced trouble with foam in the size box, recommended consulting size manufacturers for the quickest and easiest solution of the problem.

Drying Ply Selvages

In answer to an inquiry concerning the best method of drying ply selvages without overdrying the body of the warp, several remedies were suggested. One procedure in use was to build up the selvages slightly higher than the body of the warp and let the selvages go under the squeeze roll but not under the dip roll.

Another practice was to ply selvages on the front of the slasher and run it unsized to avoid insufficient drying. A written answer stated that ply selvages were creeled in cheese form on a portable creel at the back of the slasher. Instead of running these ends under the immersion rolls, they were run through the squeeze rolls and then dried on the cylinders. Five mills ran their ply selvages through the squeeze rolls without running them under the immersion rolls.

Two mills suggested moving the ply ends toward the center of the beam to avoid contact with the beam head which could soil the moist ends with rust from the beam head. Another mill painted beam heads to prevent rust.

A representative from one mill told of an arrangement whereby he was running the selvage ends through porcelain eyes to guide them around the slasher cylinder twice instead of once. This arrangement was said to dry the selvage ends satisfactorily.

Rolled Ends on Loom Beams

The causes given for rolled ends on loom beams are set forth in the accompanying box.

Among the solutions offered for the trouble, one man commented that the lease rods should be spaced to hold the yarns open until they hit the comb. To prevent rolling caused by heavy warp yarn and heavy sley, it was suggested that the use of the guide roll used to take yarn off the drag roll should be omitted. One mill wrote that traverse type press rollers should be checked daily for smoothness.

Warp Softeners Not In Size Mix

The final question on the subject of slashing asked for experiences relative to putting softeners on warps separate from the size mix, and the effect of these on weaving efficiency. In answer to this question, several favorable statements were made during the discussion. One mill man said that his plant had 150 looms running warps prepared with separate softener applications. Results showed less warp breaks, and they liked it very much. A check on the cost showed that it does not cost any more than conventional sizing methods. This mill was applying one per cent fat with an applicator roll speed of 23 rpm. To change the per cent of softener applied, it was said that the only change necessary was to adjust the speed of the applicator roll.

A statement from another mill emphasized that they were well pleased with results in the weave room because filling stops had been reduced more than warp stops, and that the need for applying shuttle dressing was eliminated. (See story on slasher lubricator unit, TEXTILE INDUSTRIES, March 1948, page 92.)

During the discussion, a mill representative pointed out that a check on their experiments with the softener showed that they were having 3 to 4 per cent less end breakage. There were definitely less filling breaks, and results directly facilitated a 2 per cent increase in production. The application was termed successful.

Two mills announced that they experienced no increase in shedding after applying the softener. One of these said that they stored a warp for six weeks and then ran it to determine if any deterioration was in evidence. The results showed no deterioration and no "soft warp."

Four written answers on this question revealed that experiments were encouraging in two instances, and inconclusive and unsuccessful in two other instances although one of these reported less loom stops.

CAUSES OF ROLLED ENDS ON LOOM BEAMS

1. Nicks or burrs on traverse type press roller.
2. Insufficient stretch on back of slasher.
3. Bad cover on slasher delivery roll.
4. Bad beams.
5. Hard selvages.
6. Draw backs on section beams.
7. Not having straight or properly set lease.
8. Combination of heavy warp yarn counts and heavy sley.
9. Excessive drying resulting in brittle yarn.
10. Excessively moist yarn and too much humidity in the weave room.
11. Harsh heavy size with insufficient fat content.
12. Bad warp tying-in.

Machine Drawn Heddles

Only one statement was made during the meeting regarding experience with machine drawn heddles. This mill had insufficient experience to determine how much could be saved. The results were of superior quality, according to observations at this mill.

Written answers to this question were received from two mills. One of these favored heddles for machine drawing because they were considered superior to the old type. This mill is replacing the old type with the new, and is planning to buy a machine for drawing-in. The other written answer revealed no experience with the old type but mentioned excellent results with the new type heddles.

The procedures described for replacing shuttles were similar except in the number of details attended to for this operation. One

speaker explained that the fixer puts in a new parallel block and checks all parts directly related to the shuttle. After checking the loom and applying shuttle dressing, the loom is ready for production.

Another speaker explained that the fixer removes all play from the rocker shaft, protector rod, and leaves the tools on the loom for the section man to make a recheck before installing the shuttle.

One representative stated that the fixer checks all parts of the loom twice before installing a new shuttle. A superintendent said that shuttle life in his mill was 3000 hours. He continued by saying that the loom is checked before the shuttle is issued. Conventional dressing was used on the shuttles. Another check is made after the loom is started. The loom is checked again the next day to determine if everything is in line and satisfactory. The second hand does the checking.

Another explanation included checking looms for alignment, checking lay and sword, and squaring the reed. The fixer puts the shuttle in and makes a second check to see if the shuttle is wearing or cut.

Several check lists for fixers to follow before installing new shuttles were submitted among the written answers. One of these is reproduced in Table 1.

During the meeting, there was no discussion pertaining to fastening shuttle knurls. One mill reported by correspondence that they had tried with little success to put the knurls back into the shuttles. This mill obtained the most satisfactory results by burring the stem with a sharp chisel, taking precautions to prevent cracking or splitting the shuttle. This procedure was not entirely satisfactory, and smashes resulted from the repair. One other mill reported trying but had no success.

Shuttle Dressings

A variety of shuttle dressings were described. At one plant, it was said they used a dressing which consists of a drier, two parts spindle oil, and one part shellac. This is applied to the shuttles which have been rubbed down with emery cloth. The shuttles are checked once or twice each week. This member stated that the shuttles look better, and the looms give less trouble when started after a shutdown. It was said that in some instances small amounts of shellac rubbed off on leather parts. The dressing is applied with a cloth or brush as often as is found necessary. No tallow was used in this instance.

In written answers to the question, several mills reported obtaining good results by using tallow on the shuttles. A special dressing is used on the binders which adds to the life of binder and shuttle, according to this report. Another member wrote that good results were obtained with a mixture of lard oil and tallow. This is applied during the weekends. Other mills used commercial shuttle dressing with good results.

Overhead Beams

Considerable interest was displayed on the subject of overhead beams on looms. The first speaker on this subject said that his plant had thirty-five looms in operation with 26-inch overhead beams. They provided an advantage by saving space.

Another speaker reported satisfactory results with 32-inch beams mounted overhead. This man said that handling the beams presented a problem. Weavers liked the long warps, and no mechanical trouble was experienced although some time was lost in changing warps. The use of these beams was said to reduce the warp-out time in addition to saving waste.

Another speaker stated that his mill was experimenting with 31-inch overhead beams which were proving satisfactory except for the smash hands and inadequate floor stands for handling the beams. A complete changeover in this mill would facilitate a substantial savings in time required for tying-in, according to the speaker.

The advantages and disadvantages listed in one report are as follows:

Advantages—

1. Allows use of larger beams without taking up more floor space.
2. More production by putting longer warps on the beams.
3. Better cleaning under the looms can be accomplished.
4. Easier access to cams, treadles, picker and harness motions.
5. Less danger of oil getting on the warps.
6. Warp is in better position to absorb moisture from humidifiers.
7. Lessens fire hazards.

Disadvantages—

1. Special handling equipment required.
2. Danger of accidents while handling the beams.
3. Less accessibility to the warp near the drop wires.
4. Harder for warp man to tie in.
5. Warp sheddings fall on the drop wires.

TABLE 1

Check List for Loom Fixers Before Installing New Shuttle

(1) Be sure the shuttle is correctly dressed and bristled.
(2) Line back box plates and lay ends.
(3) Check right and left binders.
(4) Check parallel motion and pickers.
(5) Check protector rods and bearings.
(6) Check dagger and dagger stops.
(7) Check crank arms.
(8) Check swords.
(9) Check frogs and brake.
(10) Check rocker shaft and bearings.
(11) Check end play in rocker shaft.
(12) Check depth of shuttle in right-hand box.
(13) Check transfer motion.
(14) Check filling motion.
(15) Check harness motion, timing, settings, etc.
(16) Check temples.
(17) Check picker motion.
(18) Check and correct any other parts that may be loose, worn, or out of adjustment.

During the meeting someone asked how the let-off was operated when overhead beams were used. One mill man explained that a vertical shaft activates the let-off by means of two bevel gears at the bottom and two at the top. He continued by emphasizing that it is easier to install the gears for this arrangement than on conventional beam installations, it is easy to changeover, and the gearing is more easily accessible. This speaker mentioned that overhead beam installations are not as flexible for quick warp changes as the conventional type.

Another man stated that a chain-and-sprocket drive was used successfully in his mill.

Someone else asked a question regarding cleanliness of the overhead beam arrangement. The answer to this question pointed out that there was less danger of oil dripping on the warp yarns, and that blow-off lint and sweepings do not get on the warp.

Another question asked during the meeting pertained to the danger of vibration caused by the overhead beams. One individual stated that less vibration was apparent in his mill because the loom was balanced with counterweights. Another instance was cited where a mill had used an equalizer consisting of counterweights to successfully counteract vibration.

Quality Control

A question of follow-up of quality control to remedy seconds caused by faulty operation of looms brought some discussion from those present at the meeting. The answers given here are representative of those given both written and oral. One system is in use whereby quality control data is recorded on a tag in the cloth room. The information recorded includes information on defects found in the cloth, and what changes are suggested to correct the defect. The superintendent who explained this system stated that weavers were paid less for seconds than for first quality weaving.

At this time someone asked if any other mills were paying weavers different rates for firsts and seconds. Apparently only one mill had adopted this practice.

A practice found to be effective in quality control, according to a spokesman from that mill, is to place all seconds on a table and let all overseers see them. The overseers see to it that the difficulties are remedied promptly, it was said.

Another mill man told of using a remark slip which accompanied the goods. The weaver receives one copy, and the loom fixer receives the other. This system provides the weaver and loom fixer with information pertinent to the performance of his job. In addition to the remark slip, the weave alleys are regularly patrolled as a precautionary measure. The responsibility for quality is placed on the loom fixer in this mill.

Among the written answers submitted, one procedure in effect requires the second hand on each shift to check the cloth on the looms. The cloth inspectors send a ticket to the weave room for each defect found in the cloth. These tickets show the weaver's name, loom number, and the type of defect. If the defect is caused by the loom, it is flagged and the fixer is called to the loom and shown the trouble. The second hand checks the loom after the fixer has made the repair. For each group of looms a board is provided with each weaver's name listed on it. A daily summary of seconds is posted on this board, and it shows at a glance which weavers are running too many seconds for the week.

Another procedure requires the overseers and second hands to inspect each loom and the quality of cloth being made each day. The loom fixing sections are divided equally among the fixers (one on each shift). They are responsible for the working condition of the looms. They do not perform any heavy overhauling. All seconds made are noted in the cloth room according to the type of defect and the loom number. These are returned to the supervisor who in turn gives them to the proper fixer who checks to see that they have been fixed.

In this mill, cloth is doffed twice each week to prevent any defect from running too long without being discovered. All looms making seconds are listed in the book by dates and loom numbers. Any defect repeated on the same loom within a reasonable length of time is brought to the attention of the overseer of that department.

Preventive Maintenance

In answer to a question asking for information on preventive maintenance in the weave room, a superintendent said that a program was being initiated in his plant whereby specialized loom fixing is intended to aid in a long-range program of loom overhauling. He stated that 10 per cent of his looms had been reconditioned, and that centralized lubrication is being installed to prevent breakdowns. Defects in let-off and take-up are being concentrated upon. Lubrication and cleaning are emphasized in the job of preventive maintenance.

This spokesman was asked several questions which demonstrated more than ordinary interest in the subject of centralized lubrication. One mill man asked if the centralized lubrication system presented any complications. The answer to this question was that the installations were very satisfactory, required no more attention than routine servicing, and that the secret to successful operation was in doing a good job on installing the system.

A representative from another mill asked if the pressure was the same for all parts lubricated. In answering this question the speaker said that a metering system is used. This is done by means of different size fittings. The amount of lubrication can be controlled in very small increments. Only mineral oil is used in the system.

Another question from the assembly asked about oil savings made possible through the use of centralized lubrication. Those mills using the system said that they were not trying to save oil, but were interested in saving machine parts. In this instance the amount of oil used from the system was the amount required by the machine.

One member wanted to know how long it would take for the investment in centralized lubrication to pay for itself. This was

said to be a matter of weeks, depending upon the size of the mill.

In a written statement, one mill answered that they divided the looms in each section among the shift fixers. When the warp runs out, the fixer inspects the loom for adjustments and repairs. A regular oiler is assigned to take care of lubrication requirements.

A representative at the meeting said that the looms in his plant were equipped with bottle oilers. This was said to be the most effective step taken for preventive maintenance. Red engine oil is used in the oilers so that the oil supply is easily visible. Each oiler operates a month or more without waste or need to refill.

Another system in use was explained in a written report. The program begins each week on Monday. At this time the fixer checks all looms in his section to be sure that they are properly boxing. The check is made before starting to work on any other job. On Tuesday the fixer checks his looms to see that they are picking correctly from both sides. On Wednesday the swords are checked. On Thursday the following check list is utilized:

1. Sandpaper and tallow the shuttles.
2. See that the groove in the shuttle is correct.
3. See that the bristles and fur are in good condition.
4. Check the leather on the binders, box fronts, and back box plates.
5. See that the pickers on both sides of the loom are in good condition.
6. See that the shuttle springs are tight and holding the quills straight.
7. See that the screws are not cutting the reeds.

The discussion meeting was concluded with comments on experiences with various types of check straps on high speed looms. Reports from several mills on the life of check straps varied from 735 loom hours to 19,520. Insufficient information was given on which conclusions could be based.

The causes given for excessive warp shedding are itemized as follows:

1. High loom speeds.
2. Improper setting of stop motion.
3. Faulty harness settings.
4. Too many ends per inch.
5. Faulty shed.
6. Faulty reed.
7. Worn heddles.
8. Poor carding.
9. Excessive short fibers.
10. Poor quality size.
11. Too much size.
12. Soft warp.
13. Lack of warp softener.
14. Low humidity in weave room.
15. Too much humidity in weave room.
16. Short staple cotton and long draft spinning.

Improper loom settings which contribute to warp shedding were set forth as follows:

1. Whip roll too high or too low.
2. Stop motion stands not set right with whip roll.
3. Harness set too low or too high.
4. Harness not pulling evenly.
5. Picking too late or too early.
6. Bad reed.
7. Reed not set in center of lay.
8. Too much tension on warp.

Some of the causes for improperly sized warps which contribute to excessive shedding were listed as follows:

1. Starch and water not mixed thoroughly before steam is turned on.
2. Size not cooked sufficiently.
3. Cooking temperature not high enough.
4. Too much starch in compound.
5. Not enough fat in compound.
6. Insufficient temperature in storage kettle.
7. Insufficient temperature in size box.
8. Too much flannel on slasher rolls.
9. Not enough weight on squeeze roll.

Jack K. Davis of the Victor Ring Traveler Co., was presented a gift for being elected "salesman of the year" by the organization.

An election of officers was held before the meeting adjourned. The officers elected were: C. H. Moody, Dwight Mfg. Co., general chairman; R. L. Rearden, Langdale Division, Westpoint Mfg. Co., vice-general chairman, and Paul Redmond, Jr., Alabama Mills, executive committeeman.

Textile Show Held in New York

The first Exposition of Textile Machinery, Equipment, and Supplies, was held in the 71st Regiment Armory at 34th Street and Park Avenue, New Fork City, May 3 through 7.

A series of forums was held during the week under the direction of a committee of textile men. Latest developments in methods and machinery used in the textile industry were discussed by men prominent in the industry. Several motion pictures were shown to give a pictorial presentation of some of the developments.

Mr. Tarshis, who promoted the event, stated that more than half of the exhibitors had already signed applications for space in a similar show scheduled for the last week in March, 1949.

Booklet Outlines Job Opportunities in Textiles

A new 32-page booklet entitled "Your Career," published by the Textile Information Service and aimed to interest young men and women in seeking a career in the textile industry, is now being distributed to individuals and educational institutions throughout the textile manufacturing states.

Directed primarily to members of 1948 high school graduating classes, the booklet is a frank discussion of opportunities offered in the modern cotton manufacturing industry for young people with and without textile college training. Included are a considerable number of case histories of men and women who have been successful in the field and a list of "do's and don'ts" for beginners. Salary levels and promotion possibilities are discussed and housing and recreational facilities usual to mill towns and cities are reviewed.

Importance of Industry to State

Theme of Georgia Meeting

THE THEME of the 1948 gathering of Georgia textile mill executives was the importance of the textile industry to the welfare and prosperity of the state, and the need for a closer coordination between industrial and agricultural interests—looking toward a better balance between agriculture and industry which is so essential to the maximum prosperity of any state.

Opening the meeting with his annual address as president, Charles C. Hertwig of Bibb Mfg. Co., Macon, Ga., emphasized the importance of Georgia's cotton mills to the state. "The taxes paid by the textile industry form the largest source of revenue for our state, all paid from new wealth brought into the state through mill operations," Mr. Hertwig said. He stressed the fact that, in 1947, $500,000,000 in new wealth was brought into Georgia through the mills.

R. Donald Harvey, general manager of Pepperell Manufacturing Co., Lindale, Ga., was unanimously elected president of the Cotton Manufacturers Association of Georgia at that organization's 48th annual convention which was held at the Sheraton Plaza Hotel, Daytona Beach, Fla., on May 5-6-7. Mr. Harvey succeeds Charles C. Hertwig, president of Bibb Manufacturing Co., Macon, Ga.

Other officers elected were: N. Barnard Murphy, vice president, Riegel Textile Corp., Trion, Ga., vice-president; L. G. Hardman, Jr., president, Harmony Grove Mills, Commerce, Ga., treasurer; T. M. Forbes, Atlanta, re-elected executive vice-president, and Frank Carter, Atlanta, re-elected secretary. Directors elected to three-year terms each were: George E. Glenn, Exposition Mills, Atlanta; John P. Baum, Dublin Mills, Dublin, Ga.; R. H. Jewell, Crystal Springs Bleachery, Chickamauga, Ga., and B. Donald Banks, Grantville Mills, Grantville, Ga.

Mr. Hertwig also expressed pride and appreciation for the type of persons that work in the Georgia mills and said that the industry must continue to recognize "the sterling worth" of those workers. "If we continue, as in the past, to take them into our confidence, we have no reason to fear that under-current of strange ideology which has pervaded over sections of our country," he said.

Speaking from the educators point of view, Dr. Raymond R. Paty, Chancellor of the Regents of the University System of Georgia, pledged full cooperation in aiding development of adequate leadership and research necessary if the industry is to maintain its present position as the state's largest. He said that agricultural manufacturers and educators together must develop better leadership, research and facilities.

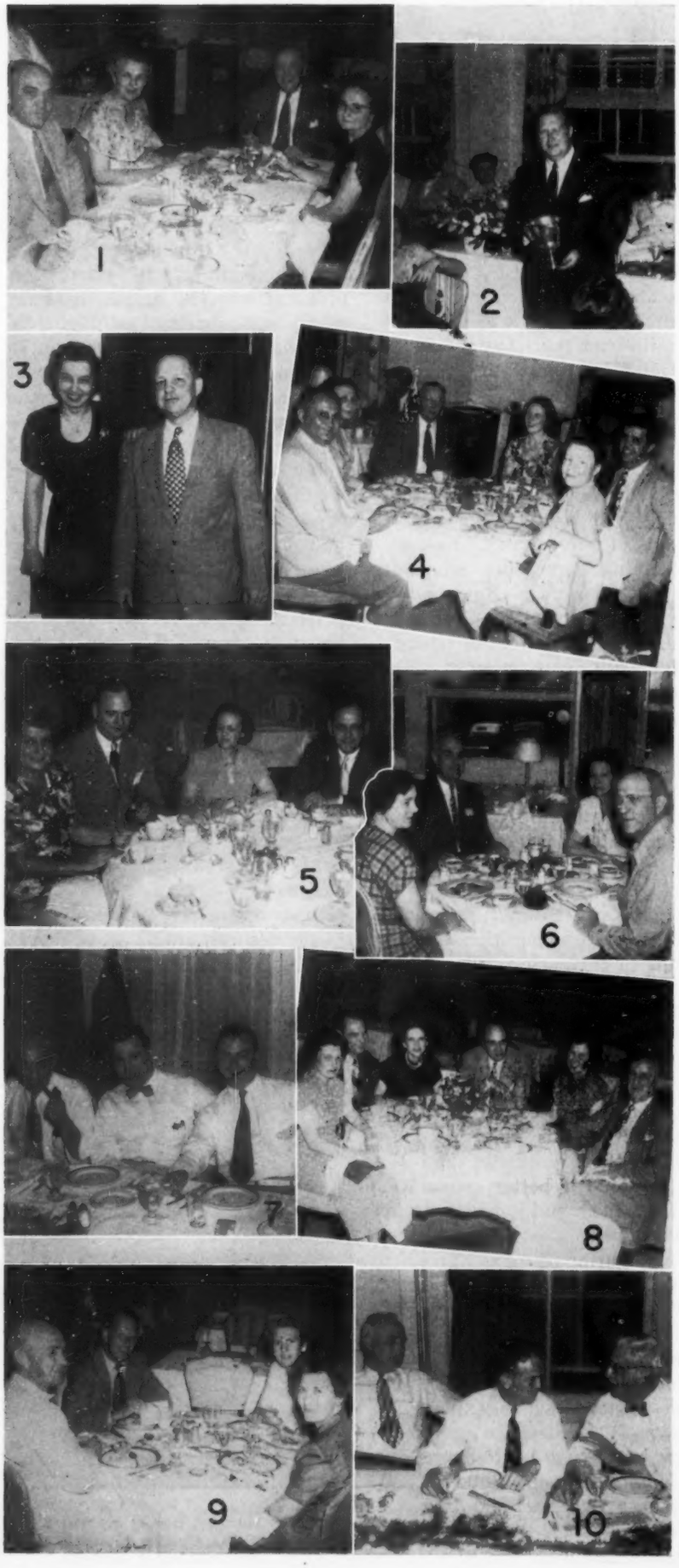
H. L. Wingate, president of the Georgia Farm Bureau Federation, pledged full cooperation of farm groups in furthering the industry. He called for a change in "the antiquated system of planting any kind of cotton in Georgia." "The day has come," he said, "when we must make special effort to produce the type of cotton the manufacturers of this state need for making their products, and this can be done if better cooperation between farm and industry groups is developed."

The Farm Bureau president urged the 400-odd representatives attending the convention to aid in seeing that the guarantee of parity price for cotton is maintained, urging continuation of the federal farm program which expires December 31. "Unless we extend the farm program or write a new one, my advice to you as businessmen is to grab your hats and hold on—we're headed for the bushes," Mr. Wingate declared.

A highlight of the convention program was the annual banquet which was an event of Thursday evening, May 6. Dr. George D. Heaton, of the Myers Park Baptist Church, Charlotte, N. C., was the principal speaker. Prizes were awarded the winners of the annual golf tournament, with silver trophies going to G. H. "Jack" Smith, Pepperell Mfg. Co., Lindale, and A. S. Durkee, Macon Textiles Inc., Macon, for winning low net and low gross respectively. Charles C. Hertwig was presented a wrist watch in appreciation of his year's service as Association president.

The third session, which convened on Friday morning, May 7th, was given over to reports of the Association's various committees and divisions and the election of officers for the coming year. T. M. Forbes, executive vice-president, rendered a report of the association activities, and mentioned that over the past three years Georgia mills have saved over eleven million dollars under

R. D. Harvey, newly elected president of the Cotton Manufacturers Association of Georgia.



A group of snapshots made at Daytona Beach. No. 1, a group from Mary Leila Cotton Mills including Mr. and Mrs. C. E. Robinson and Mr. and Mrs. George Murphy. No. 2, G. H. (Jack) Smith of Pepperell at Lindale. No. 3, Mr. and Mrs. C. C. Hertwig of Bibb Mfg. Co. No. 4, a delegation from Trion, including R. P. (Rip) Hardeman, Mrs. N. B. Murphy, Sr., N. B. Murphy, Sr., Mrs. N. B. Murphy, Jr., N. B. Murphy, Jr. (Courts & Co.), Mrs. R. P. Hardeman, No. 5, Mrs. R. D. Williams, George E. Glenn, Jr., of Exposition Cotton Mills, Mrs. D. Ashley Jewell, and R. D. Harvey of Pepperell at Lindale. No. 6, Mr. and Mrs. Harry Horne of Monroe Cotton Mills, and Mr. and Mrs. D. D. Quillian of Athens Mfg. Co. No. 7, Norman E. Elsas of Fulton Bag & Cotton Mills, Louis L. Jones, Jr., Canton Cotton Mills, and Henry Swift of Swift Spinning Mills. No. 8, Mrs. Freeman Strickland, N. S. Turner of Covington Mills, Mrs. N. S. Turner, and Mr. and Mrs. R. C. Arnold, also of Covington Mills. No. 9, C. A. Townes of Aragon Mills, A. D. Dubois of Cook & Co., Mrs. Townes and Mrs. Dubois. No. 10, Sam S. Swint of Graniteville Co., G. Mac Cheatham of Dundee Mills, and Col. W. D. Anderson of Bibb Mfg. Co.

the experience rating contribution plan of the Georgia Unemployment Compensation Act, which plan the association sponsored several years ago.

In recognition of the importance of preparedness in all its phases, the membership of the association resolved to grant the necessary "leaves of absence" this summer to the men in their organizations who are members of the reserve components of the armed forces so they may participate in the training activities.

The sixth annual meeting of the Textile Education Foundation, Inc. was held on Friday afternoon, following adjournment of the 48th annual convention, and was presided over by the president, Frank B. Williams, of West Point Manufacturing Co. Mr. Williams in his annual report, stated that the new, million-dollar Harrison Hightower Textile Building at Georgia Tech will be completed late this year and that in the new building will be placed machinery for the processing of wool and synthetics as well as cotton, and knitting as well as spinning and weaving. Georgia mills are contributing funds with which to purchase machinery to the value of $200,000, and this is in addition to the Foundation's fund of more than $500,000 which will be used for supplementing salaries of instructors and for other purposes.

A closing feature of the convention was the old-fashioned fish fry, floor show and dance held on Friday evening, May 8th.

Taxes, Tariffs, and Exports

Featured in National Textile Seminar Discussion

THE THIRD National Textile Seminar, sponsored by the Philadelphia Textile Institute, was held at Shawnee-on-Delaware, Pennsylvania, during the week of May 10-14. According to one of the members of the seminar committee, representatives of labor, management, research technicians, tax, and marketing experts were invited to discuss various aspects of the textile industry's problems.

Brief abstracts of addresses delivered before the seminar follow:

Beardsley Ruml of R. H. Macy & Co., on "Taxation." A large defense program and therefore high taxes are to be expected indefinitely. All public expenditures should be forced to meet severe tests of necessity, urgency, and efficiency.

Government plant expenditures, especially abroad, should be financed by the sales of savings bonds to the public rather than by taxation. Foreign aid should be financed by loans abroad rather than relief grants, but we must permit import of goods and services to enable foreign governments to repay loans.

Harry Rudick of Lord, Day & Lord on "Taxation." Congress has neglected to plug two important tax avoidance loopholes: (1) Tax-exempt income from state and municipal bonds, (2) the oil and gas industry allowances for depletion, whereby recipients of income from oil and gas wells can go on deducting 27½% of income every year even after the entire cost of the property has been recovered.

Julius B. Goldberg of J. P. Stevens & Co., Inc., on "Research." One of the greatest needs today is for more interpreters of research at the textile mills. A vast amount of basic information is in the literature or is readily obtainable from the many organizations doing research work, but we appear to lack a sufficient number of men trained to make use of this fundamental knowledge in the solution of everyday mill problems.

Herman Michl of the Cotton Textile Institute, Inc., on "Tariffs." There can be little doubt that a textile industry would ultimately have developed in this country without the tariff—there also can be no doubt that without it, it could not have reached its present huge proportions. Whatever doubts there may be regarding the achievement of the tariff in other industries, it may be said with certainty that it achieved its purpose in textiles.

The textile industries, in common with other so-called sheltered industries where the tariff is both essential and effective, are the most competitive in the country, and their profits below the average of manufacturing industries generally.

The successful application of the tariff to the development and maintenance of the textile industries, may be attributed in large measure to the simplicity of our tariff objective; namely, to compensate the domestic industry for its higher labor costs.

On the basis of the record to date, the American textile industry has no reason to look for an expansion in foreign markets through the operation of the Trade Agreements Program. The industry does, however, have reason to fear the continuation of the present law for another three years. The state department has announced its determination to negotiate more agreements next year if the law is extended.

Elvin H. Killheffer of DuPont Company on "Trade Agreements." Congress should reject the Havana draft of the International Trade Organization Charter and offer one based on American principles of free enterprise. Under the charter, foreign investments will be discouraged rather than encouraged. Australia, a country with little, if any, intentions of making investments itself, wrote the provisions. Obviously they are written from the viewpoint of the receiving country. Yet, if such investments are made, the U. S. must make most of them.

Frederick M. Fitzgerald of Draper Corporation on "Machine Developments." For the immediate future a further refinement and simplification of the loom as we know it, offers the most promise. Beyond that, research is turning back to the three fundamental principles of weaving: shedding, picking, and beating-up in the hope that an entirely different type of machinery will result.

In the conventional type of loom, improvement in the means used for throwing or picking and boxing of the shuttle will probably be made. We are confident that a more efficient and simple shuttle checking means that will eliminate the troublesome and expensive checking strap will be offered shortly.

Robert J. McConnell of Whitin Machine Works on "Textile Machinery Activity." There will be sustained textile activity for an indefinite period and lower mechanical operating costs. The amount of cloth available per capita today is only about the same as in 1922, despite a material increase in real national income, as compared with the earlier period.

Half of the present spinning spindles are over thirty years old. The amount of machinery in place

at the present time is not producing more than is needed to supply a normal demand.

The present spindles in place will not increase; the new spindles being produced just about take care of obsolescence.

Glenn Gardiner of Forstmann Woolen Co., on "Industrial Relations." Management and labor will do well to regulate their tactics and arrive at their decisions on the basis of "what's right" rather than "who's right."

There is little which affects the stability of a company, which does not also vitally affect the security and welfare of its employees.

If either management or labor exploits or cheats the other, the basic interests of both are harmed in the end. Unfair advantages gained by either party are certain to be short-lived.

Carl C. Mattman, Jr., of Textron, Inc., on "Styles." In planning new products, new materials, new styles, and in the development of new markets, the fabric technologist must play a leading part, but to be really effective he must have the support and cooperation of the financial, manufacturing, marketing, and sales executives of his organization.

Men will provide an answer to the New Look in women with vivid colors in sportswear. Other things to look for in menswear are more ease and comfort in design and styling. A man's wardrobe will be composed of a greater variety of new fibers and finishes.

John W. Murray of Textile Export Association of U. S., on "Exports." Without the expert help and special skills of the textile exporter, it is generally conceded that it would be impossible to merchandise at a profit the enormous quantities of yarn and cloth produced by our spindles and looms over the last two years.

Exporters took 14% of the output of our 1947 production and distributed it among 119 foreign markets. So desirable is our foreign trade in textiles that the industry is united in its determination to maintain it at least at current levels.

World trade in textiles for generations to come will rest upon the policies that will be laid down in the next few years in regard to the rehabilitation of Japanese industry.

The direct results of the Marshall Plan will not be felt in textiles aside from raw cotton and yarn; the indirect results should be considerable.

Looking beyond the developments that may prevail for the next ten years, it is reasonable to believe that the dispersion of the cotton textile industry will continue. There is nothing in the I. T. O. charter, recently drafted in Havana, which will tend to prevent backward countries intent upon developing their own industries from erecting barriers against the products of established industries. Textiles represent the first step in industrialization and the easiest to take.

H. H. Schell of Sidney Blumenthal & Co., Inc., on "America Aroused." The world's highest standard of living produced by our free private enterprise economy is so apparent to even the casual observer that it is hard to believe that Communism and Socialism would have any followers in America.

Russia is so convinced that their economy is far more productive than ours that they are doing everything in their power to convert other peoples to their system. I think it is time we took them at their word.

Therefore, I urge our state department to immediately make formal representation to borrow from the Soviet government the equivalent of five billion dollars, over a five-year period. They could place this credit at our disposal in Russia and we could draw upon it in raw materials and in goods. It seems to me this plan would give Russia an ideal opportunity to convince the world that she wants peace and that she further is willing to work and contribute towards it.

Ten Years of Cotton Textiles

The data in the chart below was assembled by The Association of Cotton Textile Merchants of New York from Bureau of the Census reports and information obtained through the courtesy of machinery manufacturers. Cloth production for the non-census or even years prior to 1941 has been estimated to correspond to spindle hour activity during the preceding census years. Cloth production for 1941 is WPB estimate of June 29, 1942, which is the basis used for subsequent calculations, with appropriate modifications.

	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948
EQUIPMENT											
COTTON SYSTEM SPINDLES											
Spindles in place at beginning of year	26,704,476	25,994,676	24,940,204	24,504,490	24,157,306	23,757,844	23,342,922	23,105,942	23,606,192*	23,927,706*	23,730,000*
Increase or decrease from preceding year	−869,394	−709,800	−1,054,472	−435,714	−347,184	−399,462	−414,922	−238,980	708,650	121,314	−197,706
New installations, additions and replacements	178,280	349,416	414,974	449,848	210,456	7,752	82,736	323,688	323,056	416,555	
OPERATION											
CONSUMING COTTON ONLY											
Spindles active at any time during year ending July 31st	24,774,004	23,731,050	23,585,938	23,389,454	23,607,508	23,429,252	23,018,858	22,674,852	22,586,512†	22,779,743†	
Spindles idle or active on other fibers during some period	1,930,472	2,263,626	1,354,266	1,115,036	549,798	328,592	324,064	431,090	1,219,680	1,147,963	
Average number of active spindles based on twelve monthly reports	22,039,179	22,317,552	22,410,966	22,955,205	23,051,400	22,744,106	22,332,050	22,018,529	21,933,578†	22,113,833†	
Intermittent spindles (being the difference between average active spindles and those active at some time during year)	2,734,825	1,413,498	1,174,972	434,249	556,108	685,146	686,808	656,323	652,934	665,910	
Percentage relation of average active spindles to spindles in place	82.53%	85.85%	89.86%	93.68%	95.41%	95.73%	95.67%	95.29%	92.13%	92.42%	
Spindle hours run	76,252,297,000	92,570,738,000	98,379,419,000	121,968,582,000	133,536,052,000	125,413,065,000	114,984,489,000	107,325,501,000	109,368,009,000	116,149,000,000	
Hours run per average active spindle	3,460	4,148	4,385	5,313	5,793	5,514	5,149	4,874	4,986	5,261	
MARKET											
Production in square yards	7,548,977,000	9,044,979,000	9,601,899,000	11,327,903,000	12,204,611,000	11,569,224,000	10,572,421,000	9,779,238,000	10,171,225,000	11,077,172,000	
Exports in square yards	319,634,000	367,466,000	357,925,000	586,739,000	447,850,000	538,462,000	638,096,000	672,789,000	774,945,000	1,470,285,000	
Imports in square yards	58,282,000	111,817,000	84,344,000	61,148,000	17,643,000	19,764,000	11,188,000	79,879,000	44,514,000	15,867,000	
Available for domestic consumption	7,287,625,000	8,789,330,000	9,328,318,000	10,802,312,000	11,774,404,000	11,050,526,000	9,945,513,000	9,186,328,000	9,440,794,000	9,622,754,000	
Population at July 1st	130,215,000	131,200,000	131,970,000	133,203,000	134,665,000	136,497,000	138,083,000	139,585,000	141,229,000	144,002,000	
Available for per capita consumption in square yards	55.97	67.00	70.68	81.10	87.43	80.96	72.02	65.81	66.85	66.82	

* Includes cotton system spindles on other fibers
† Estimated

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These pictures tell an unusual story of the versatility of American MonoRail "Up and Over" Handling. (1) Cotton laps are loaded on carrier at pickers. Carriers roll by gravity to scale where weight is checked. Automatic reject at scale maintains tolerance within one-half pound. Good laps feed automatically to conveyor. Rejects roll by gravity to rework storage. (2) Carriers automatically engage with booster system for transfer to card room on floor above. (3) Loaded carriers roll by gravity to storage track. Empty lap rods return for transfer to pickers on the floor below. (4) Operator pulls off nine carriers at a time to creel a row of cards.

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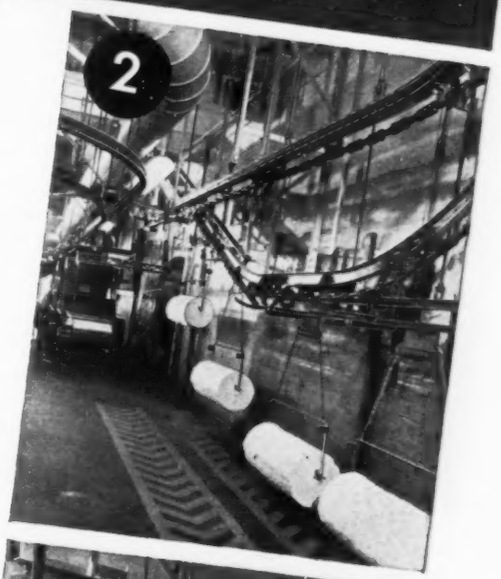

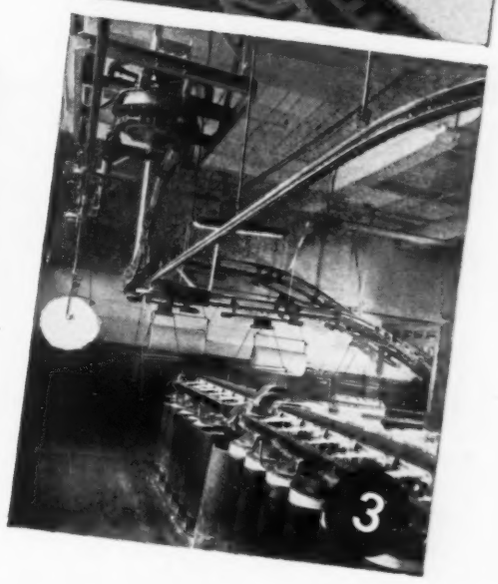

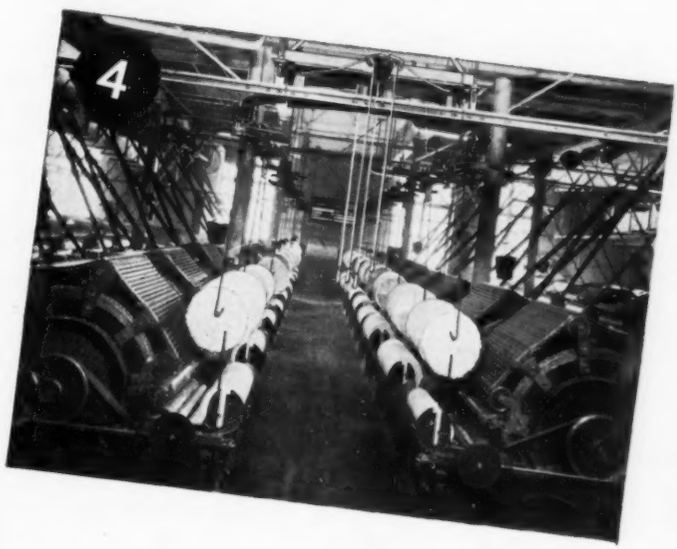

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WINDING MACHINES — *Principles and Practices*

By **JESSE W. STRIBLING**
Universal Winding Co.

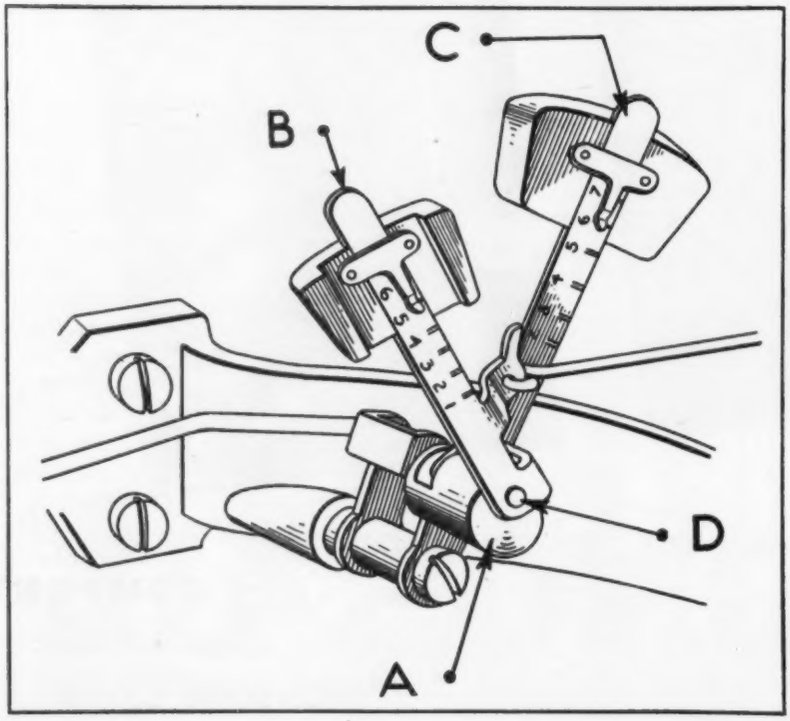
THIS ARTICLE concludes the discussion on filament rayon coning and covers the use of the differential pressure connecting rod collar; the breakage lever balance on fine-denier yarns; the seven-point adjuster; the emulsion attachment; gear gain maintenance; changing wind gears; lubrication and preventive maintenance.

Article 10: Filament Rayon Coning

IN CONING fine-denier filament yarns, difficulty is sometimes encountered in the binding of the diff pressure lever and the diff tension lever against each other on the diff pressure connecting rod. This can be improved by using the diff pressure connecting rod collar shown at (A) in Fig. 62. This collar separates the diff tension lever (B) from the diff pressure lever (C) and prevents the two from binding against each other, which would interfere with accurate control on the release of tension and pressure.

This collar (A) can be applied to existing No. 50 machines having standard tension and pressure parts. The tension lever (B) should be turned on the threaded part of connecting rod (D) until it is centrally located in the slot of the collar, after which the collar is tightened onto the rod by a screw underneath. The collar should be set at such an angle that both levers are allowed to operate freely.

Fig. 62. Differential tension and pressure levers with differential pressure connecting rod collar.



Breakage Lever Balance

The use of the breakage lever balance was described at the end of Article 3, it being stated that its principal use is on synthetic filament yarns, which are usually wound under very light tension. This breakage lever balance is shown at (A) in Fig. 63.

This balance is almost a necessity in coning fine-denier rayon, because the tension is usually so light that the end of yarn will not hold the breakage lever up and will not keep the stopping lever from contacting the stopping lever wheel. As has been stated, the balance is adjusted with the weight above and only slightly to the right of top center with the breakage lever in running position; in this position it adds very little weight to the breakage lever while the end is running, but when the breakage lever falls part way, due to the yarn breaking or running out, the weight on the balance moves to the right, giving

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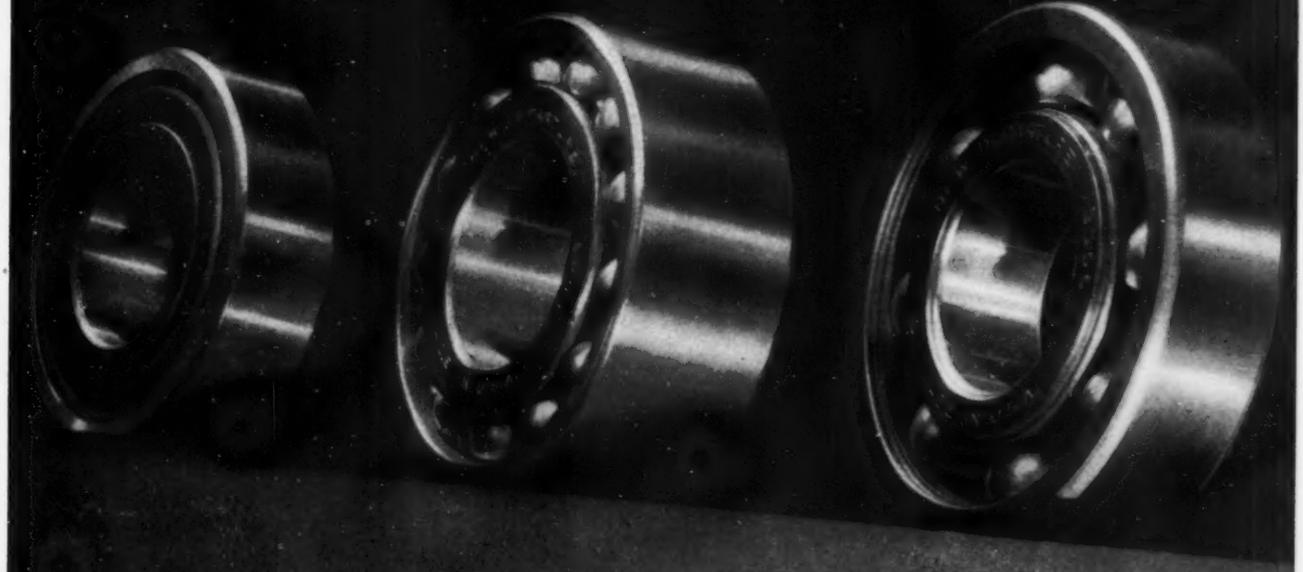

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more leverage and forcing the breakage lever down and the stopping lever into contact with the stopping lever wheel.

Among other parts and attachments which have previously been described, there are two which are now considered as either practically standard fittings or are widely used in rayon coning.

The screw-type upper traverse frame stop, described in Article 4, is considered a standard fitting.

The positive sizing attachment for stopping the spindle when the predetermined diameter of cone has been reached, as described in Article 5, has not reached the point of being considered a standard fitting, but a number of large rayon manufacturers have found it useful in stopping the spindle without adding pressure at the outside diameter of the cone.

Seven-Point Adjuster

The seven-point differential pressure adjuster, shown at (B) in Fig. 63, is now considered standard in coning rayon yarns. This adjuster has seven notches, instead of four as on the old-style adjuster used on cotton yarns, which permit the diff pressure connecting rod being set at a lower point in the adjuster, thus giving faster pressure and tension release as the package fills up. It has been found that, in some cases, the release of pressure by the diff pressure lever should be at a greater rate than is possible with the old four-point adjuster. The seven-point adjuster can be used instead of the four-point type, but in addition it has three additional notches at the lower end.

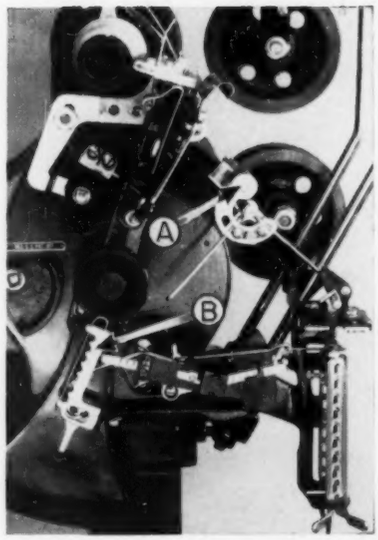


Fig. 63. Showing breakage lever balance (A) and 7-point differential pressure adjuster.

Emulsion Attachment

Most rayon yarns which are to be shipped to knitters are given an oil treatment, either in a process previous to coning or on the coning machine. Where the oil is to be applied to the yarn in the coning operation, an emulsion attachment is used on the No. 50 machine, as shown in Fig. 64.

The attachment consists of a shallow emulsion trough; individual emulsion rolls on a shaft, one roll per spindle; and suitable thread guides to control the path of the yarn and to keep the yarn in contact with the emulsion roll.

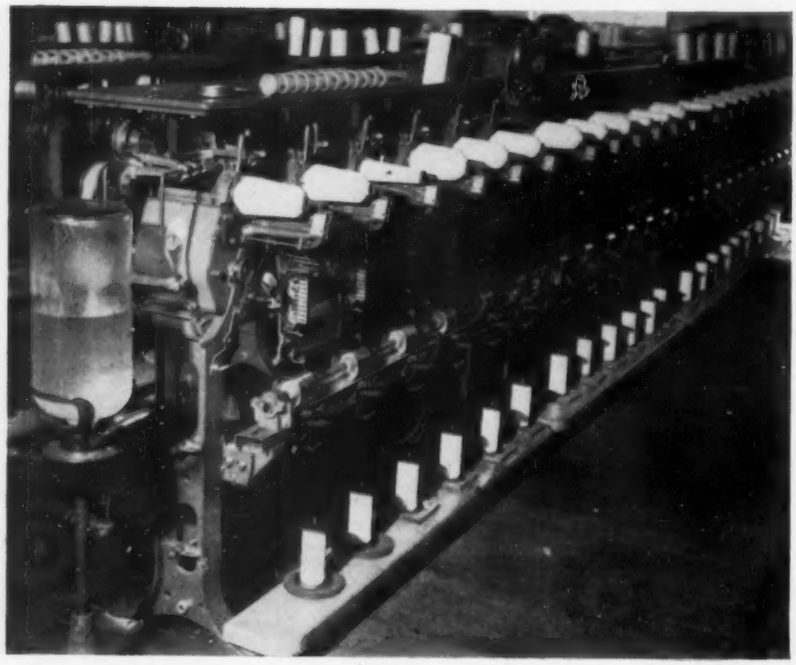
The emulsion rolls revolve slowly, the lower rim of the roll picking up oil from the trough, with the yarn being in contact with the front surface of the roll and picking up oil from the film which adheres to the roll.

The arrangement of trough and roll is such that there is only a slight wrap of the yarn around the surface of the roll, thus permitting practically a straight line between the thread guides above and below the roll. The straight thread line prevents unnecessary tension being added to the yarn, as would be the case if the yarn had to turn at sharp angles in passing around the roll.

The thread guide between the emulsion roll and the tension is mounted on a horizontal carrier rod and is attached by a link to an adjuster on the traverse frame counterweight. At the start of winding a cone, the end passes vertically between the two thread guides above and below the roll. As the package increases in diameter, thus increasing the yarn speed, the upper thread guide is moved to the left on its rod, by linkage with the traverse frame counterweight. This causes the yarn to "wipe" over a wider surface on the roll and pick up more oil, thus compensating for the increased yarn speed. Control of uniformity of oil content from start to finish of a cone is obtained by raising or lowering the link in the adjuster attached to the counterweight.

The amount of oil to be applied at the start of a cone is controlled by the speed of the emulsion roll and the angle at which the yarn wraps around the roll. To prevent adding tension, it is better to use only a slight wrap and control the

Fig. 64. Emulsion attachment for applying oil to yarn.



The two large bronze travelers illustrated actual size each weigh 600 grains and are used for twisting sash cord and heavy twine. No. 12 and No. 16 bronze twister travelers are shown for comparison. These "heavy weights" are the biggest in Victor's line of some 15,000 sizes and styles for every spinning and twisting need.

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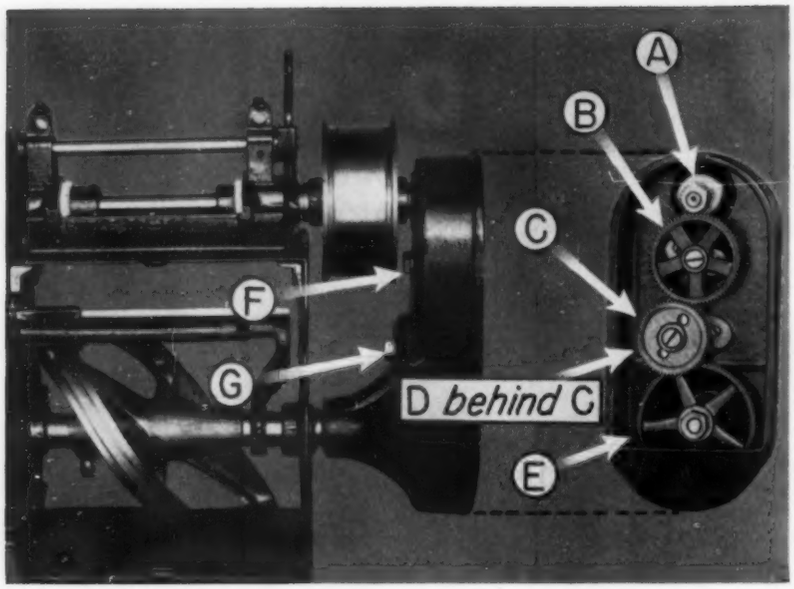


Fig. 65. No. 50 head with gear gain attachment.

amount of oil by varying the speed of the roll.

The emulsion roll shaft is driven by a reduction unit which gets its drive through a V-belt from the lower end idler pulley at the end of a machine. Between the reduction unit and the roll shaft are change gears for varying the speed of the roll shaft. Standard gear combinations permit roll shaft speeds from ½ rpm to 7½ rpm, this range of speeds being sufficient to cover almost any percentage of oil usually applied.

The emulsion troughs are fed from a bottle leveling attachment located at one end of a row of machines. As many as six gangs can be fed from one leveling attachment, it being necessary of course that the troughs on those six gangs be at the same level.

The emulsion attachment will be covered in more detail in a later article on nylon coning.

Gear Gain Maintenance

This section on No. 50 maintenance should be considered as supplementary to Articles 6 and 7, all the subjects discussed in those articles being applicable to rayon coning machines except, of course, those parts dealing with the belt gain mechanism.

To remove the gear gainer case and cam, the steps are the same as given in Article 6, except that it is necessary to remove spindle gear (A in Fig. 65) before the gainer case and cam shaft can be withdrawn. To replace the removed parts, the steps are followed in reverse, and the oil in the gainer case should be checked for proper level.

Changing Wind Gears

To change the number of winds on gear gain machines, the procedure is as follows:

1. Select gears to be used from Table 5, Article 8. It probably will not be necessary to remove the spindle gear (A in Fig. 65), because most of the wind combinations use the same spindle gear.

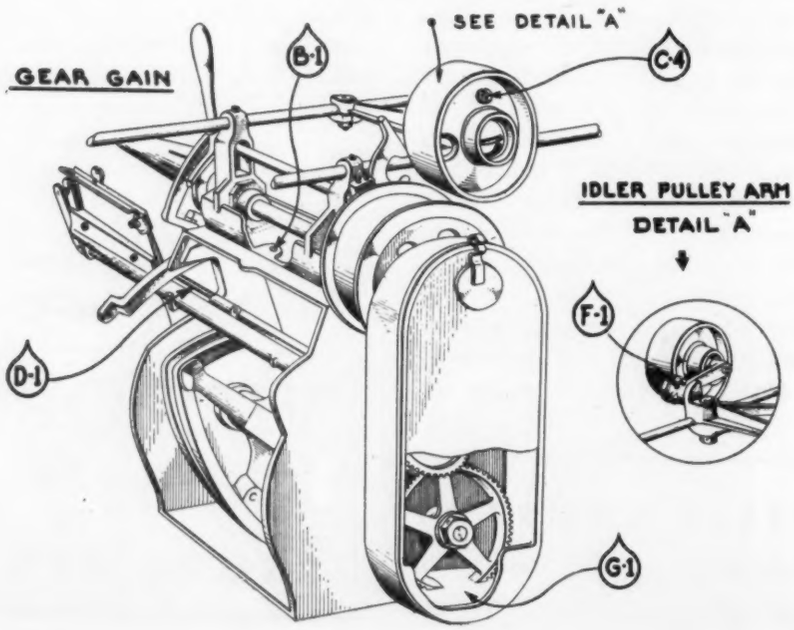
2. Place proper intermediate gear (B) on its stud, with washer between gear and frame, and place stud in one of the three upper holes provided for the purpose. Tighten nut (F) and washer on back of gainer case.

3. Place outer gainer gear (C), oil guard, and inner gainer gear (D) on their stud, with tongue of inner gainer gear passing through hole in oil guard and into groove of outer gainer gear (C). Pass stud through one of the three lower holes, with (C) meshing with (B), and (D) meshing with cam shaft gear (E). Tighten with nut (G) and washer on back side of gainer case.

4. Push plugs into all empty upper and lower holes.

A special wrench (*see H, Fig.* 50, *Article* 7) can be used to advantage to loosen and tighten the nuts in changing gears. The socket end of this wrench is used on the cam shaft nut and spindle gear nut; the handle end is used on the nuts of the intermediate and gainer gear studs.

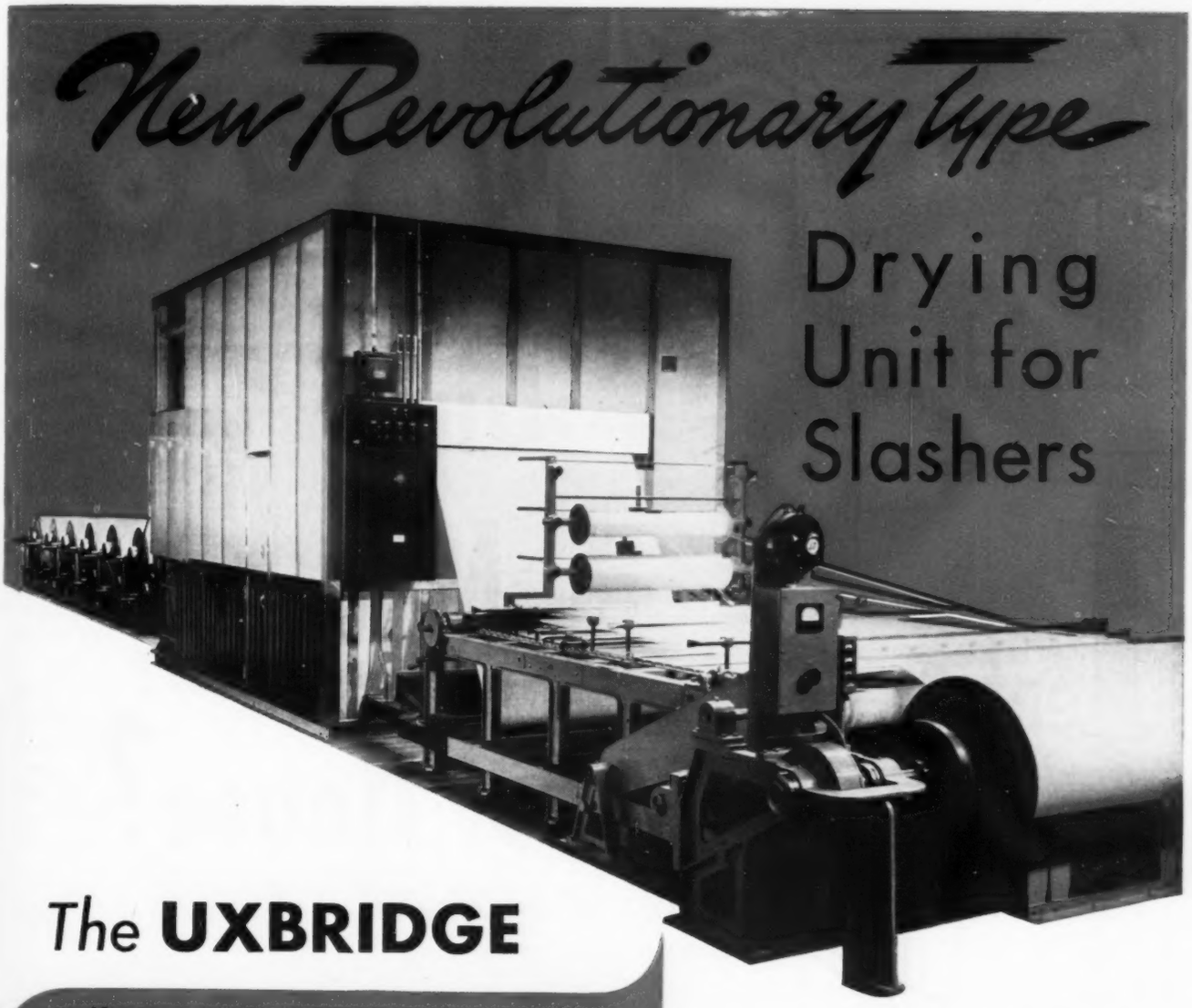
Fig. 66. Gear gain lubrication chart.



Lubrication

This section on lubrication will supplement the same subject in Article 7.

Figure 66 shows a No. 50 head, with gear gain, and Fig. 67 the parts of the emulsion attachment



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Revolutionary is the word for the "Gentle Air" slasher. Drying is accomplished by passing heated air through special nozzles which reduce the high velocities generated at the fans and distribute the air in a soft, even pattern through the yarn sheet. The yarn is never exposed to direct blasts of hot air, is dried without fibre disturbance of any kind. Thoroughly tested under production conditions over a period of three years, the "Gentle Air" will pay for itself many times over by increasing your warp production, providing better warps for your looms.

- Fits between front and back ends of existing slashers.
- Processes any spun fibre including cotton, wool, worsted, or rayon
- Only 14 yards of yarn inside drying area.
- 1,000 pounds production per hour.
- Yarn sheet 60 to 70% dry, not tacky at first contact inside dryer. No size transfer from rolls to yarn.
- Instant heat and air circulation. Instant cooling.
- Fully insulated, completely automatic.
- Wet splitter attachment at back end opens up yarn sheet for better drying of heavy work, prevents tearing action at front end when size envelope is broken.

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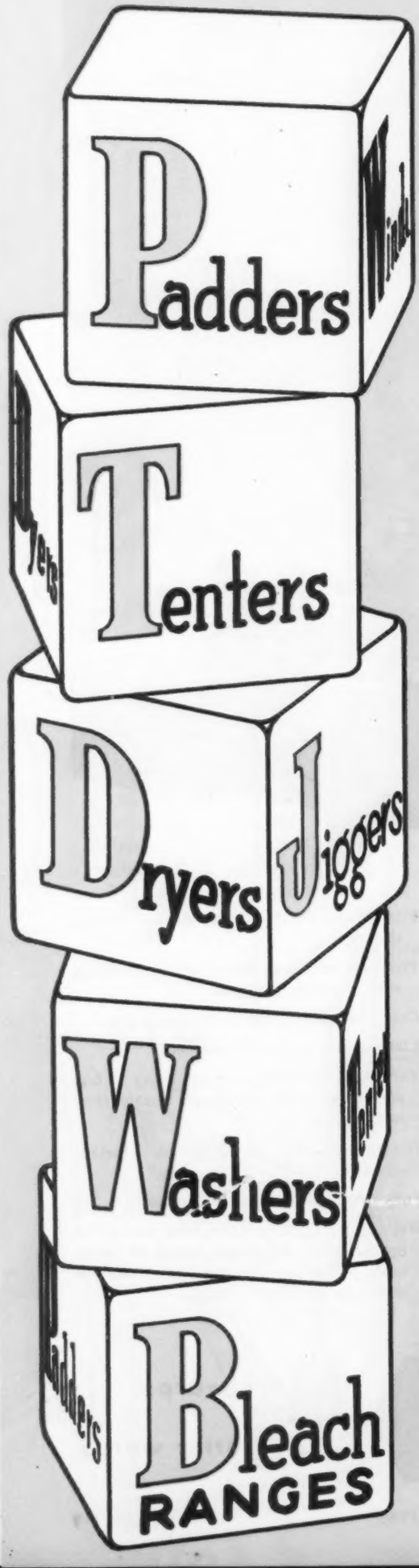

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which require lubrication. The letters refer to the left hand column in Table 6, which is the lubrication schedule. Table 7 covers specifications of the lubricants given in Table 6.

Fixers should be cautioned against keeping the oil level in the bottom of the gainer case at too high a level. To prevent oil leaks, this level should be just high enough to cover the teeth on lower rim of cam shaft gear, as shown in Fig. 66. This gear will carry the oil up to the groove in the top of the gainer case bushing, from which it will lubricate the cam shaft and pass along the shaft to the cam and front Oilite

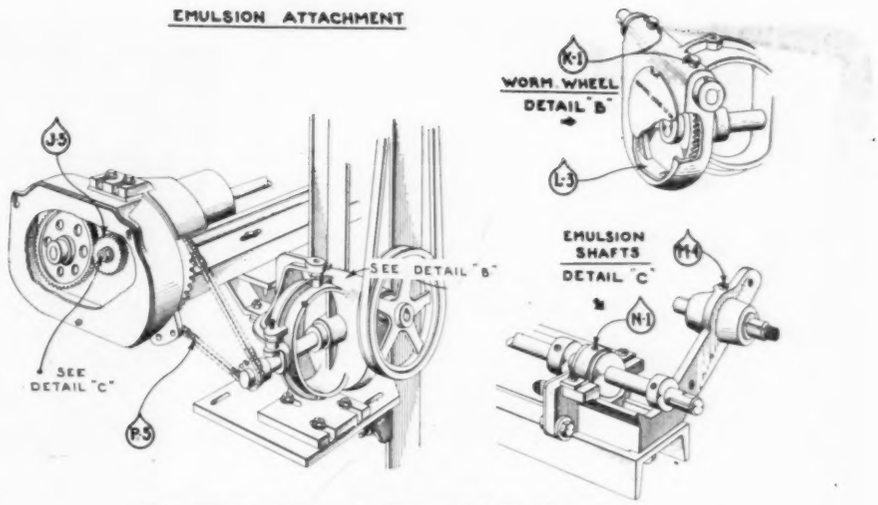


Fig. 67. Emulsion attachment lubrication chart.

TABLE 6

LUBRICATION SCHEDULE

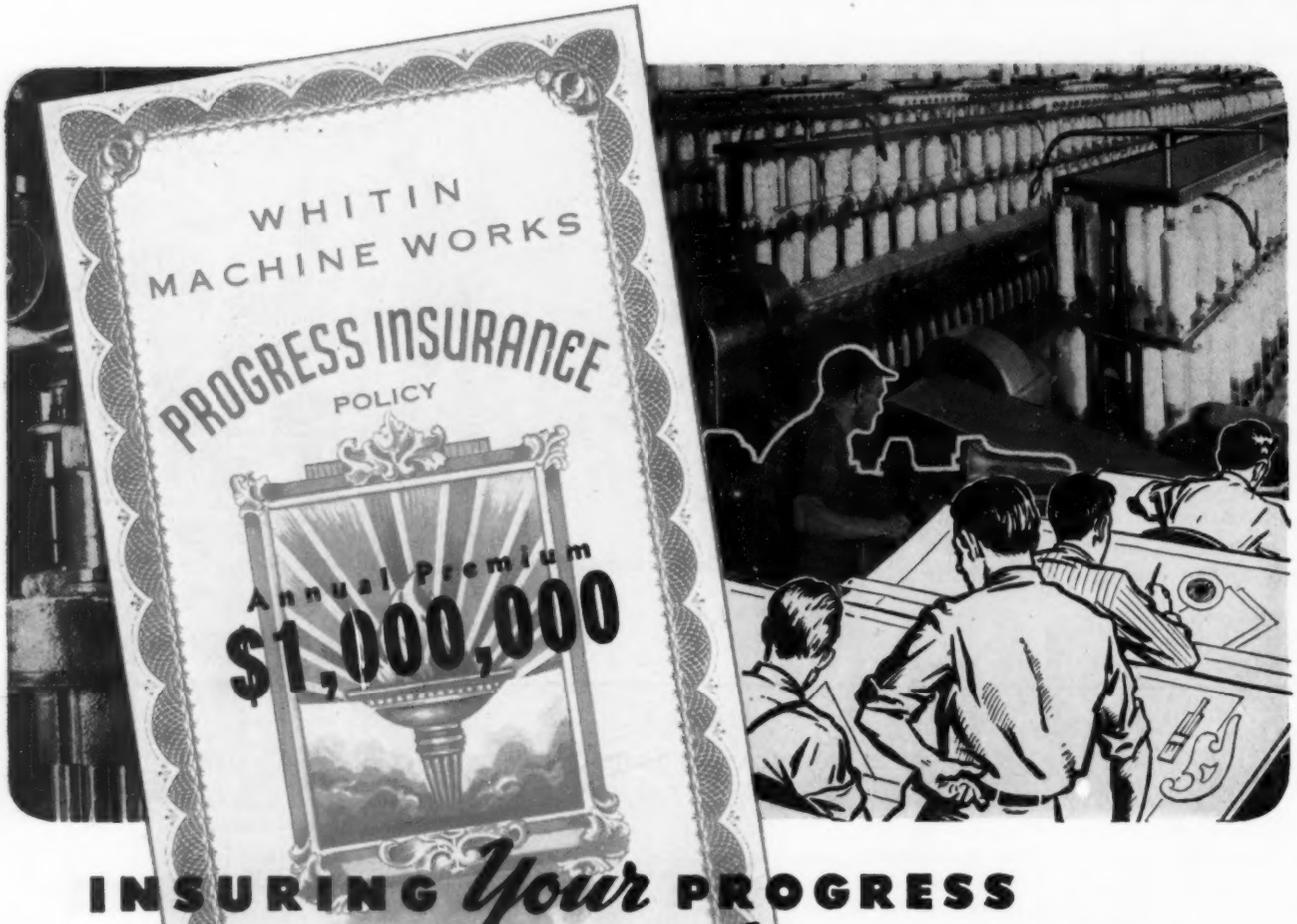
Frequency	Part	Amount	Lubricant
F Every 40 Hours	Idler Pulley Arm	1 drop	No. 1 OIL
D Every 40 Hours	Traverse Bar	1 or 2 drops	No. 1 OIL
K Every 80 Hours	Emulsion Drive Worm Bearings	2 or 3 drops	No. 1 OIL
G Every 120 Hours	Gainer Case (Gear Gain)	As shown	No. 1 OIL
L Every 160 Hours	Emulsion Drive Worm Wheel	As shown	No. 3 OIL
B Every 500 Hours	Spindle Reservoir (Gear Gain)	To overflow hole	No. 1 OIL
N Every 6 Months	Emulsion Roll Shaft Bearings (Wood)	2 drops	No. 1 OIL
C Every 6 Months	Alemite Fittings (Idler Pulleys)	Fill	No. 4 LUBRICANT
M Every 6 Months	Alemite Fittings (Sprocket Shaft Bearing)	Fill	No. 4 LUBRICANT
J Every 6 Months	Emulsion Shaft Change Gears	Smear lightly	No. 5 GREASE
P Every 6 Months	Sprocket Chain	Smear lightly	No. 5 GREASE

TABLE 7

SPECIFICATIONS OF LUBRICANTS

Specification	No. 1 OIL	No. 2 OIL	No. 3 OIL	No. 4 LUBRICANT	No. 5 GREASE
Gravity	28	23	25		
Flash	370	360	500		
Pour °F.	10	-25	35		
Fire	425	410	600		
S. U. Visc. @ 100 °F.	120-140°*	300		250-300	200-400
S. U. Visc. @ 210 °F.	40-42	50	150		
Neutralization	.01	0			
Emulsion	50	75			
Color	Max. No. 2	Max. No. 2		Amber	
Carbon	.02 Max.	.03 Max.	3.0		
Soap Content				Lime 3%	Lime Base
Penetration ASTM Worked					300-350

* In England: 120-140 S.U. Visc. compares with Redwood Viscosity 110-120.
In Europe: 120-140 S.U. Visc. compares with Engler Viscosity 3.6°.



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cam shaft bushing. Through centrifugal action of the cam, oil is also carried to the cam roll, traverse bar, and slide.

The oil level in the gainer case should be checked as given in Table 6. When starting new cams, a little vaseline or very light grease can be spread on the cam groove.

Preventive Maintenance

Preventive maintenance may be defined as a periodical check on parts subject to wear and replacing those parts before they have worn to a point of causing bad winding. There are too many variables in connection with preventive maintenance for the subject to be fully covered in this article. All rayon manufacturing plants having sizable installations of No. 50 coning machines have already established programs of preventive maintenance, the length of time between periodical checks depending upon the hours of operation, speeds, and other variables. They have found that money is saved in repair parts, and much better winding is obtained, with fewer rejected cones, where the machines are thoroughly inspected at regular intervals. Some plants go to the extent of removing from the machines all moving parts, inspect them for wear, and replace those which have served their usefulness. For those users having a sizable number of coning machines, this procedure is highly recommended.

It is particularly important that cam rolls be checked regularly for wear, by using the cam roll gauge described in Article 7, to prevent the cam rolls from wearing down to a point where they will damage the cam grooves. As has been stated before, the cam rolls are inexpensive, and their replacement at the proper time will save having to replace much more expensive cams.

(The next article, to appear in an early issue, will deal with nylon coning.—The Editors.)

Cotton Warp Sizing

Article 17

By PAUL V. SEYDEL, D.Sc.

Continuing discussion of slasher room equipment. Drying ovens and cylinders—suggestions for arrangement of split rods and delivery rolls — comments on selvage devices.

PROPER drying of the size film is as important as any other consideration in producing a good flexible film that will not shed. Insufficient drying may leave so much moisture in the yarn that if the beams are stored for any length of time, mildew may result. With the use of a small amount of antiseptic in the size, there should be no danger with less than 9 or 10 per cent moisture. On the other hand, over-drying produces a brittle film which sheds easily. Also, starch films that have been baked are similar to toast in that they never again recover the original elasticity of a properly dried film.

For this reason, slashers should not be pushed beyond their designed capacity by increasing the heat in the cylinders. The use of contact rolls to hold the yarn on the cylinder surface will increase the capacity of the slasher by increasing the drying surface. A 20 to 30 per cent increase in capacity may be realized if enough steam is fed to keep the cylinder surfaces at the same temperatures.

Standard cotton slasher design utilizes one five-foot and one seven-foot diameter cylinder, with the larger cylinder first. Recently a number of mills have been adding an extra cylinder. It is claimed by some that when five-foot cylinders are added, there is a greater tendency toward sticking on this cylinder (with most designs the added cylinder takes the warp first). This is supposed to be a result of insufficient drying, that leaves the size film in a sticky condition as it leaves the cylinder. For this reason, seven-foot cylinders are preferred. (Generally, slight adjustments in the size formula can overcome sticking tendencies.)

Increases of capacity from 35 to 55 per cent have been reported with the addition of an extra cylinder.

The Saco-Lowell high-speed slasher has four five-foot cylinders. To decrease the tendency of the size to glue the yarns together, half of the warp sheet is given a preliminary drying on the first cylinder, and the other half on the second cylinder. With the yarns partially dry, the two halves are rejoined, and dried together on the third and fourth cylinders. This is particularly advantageous for slashing either very heavy sets, or very wide sets. Production of as much as 250 oz. per minute is claimed.

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clean to prevent sticking. They should be kept free from dents or blisters that will hold the yarn away from even contact with the cylinder, thus leaving partially dried spots. For efficient operation, the steam line to the cylinders must be properly trapped, and the buckets or siphons in the cylinders must be in working order, so that condensed water is removed as rapidly as it is formed.

The first (large) cylinder should be somewhat cooler than the second. If three cylinders are used, the third should be cooler than the second. The first cylinder should be cooler, so that a slower evaporation of moisture may take place. The temperature of the last cylinder should be controlled to decrease any tendencies toward baking the size film on the yarn after the moisture content has been reduced by the other two cylinders.

The actual temperatures to be used will vary according to the type of goods being dried, and other local conditions. A good average would be about 220°-230°-220° F. Although more production is obtained in the slasher room by increasing these temperatures and obtaining quicker drying, if this is carried too far it will be at the cost of lower production in the weave room, resulting from less elastic size.

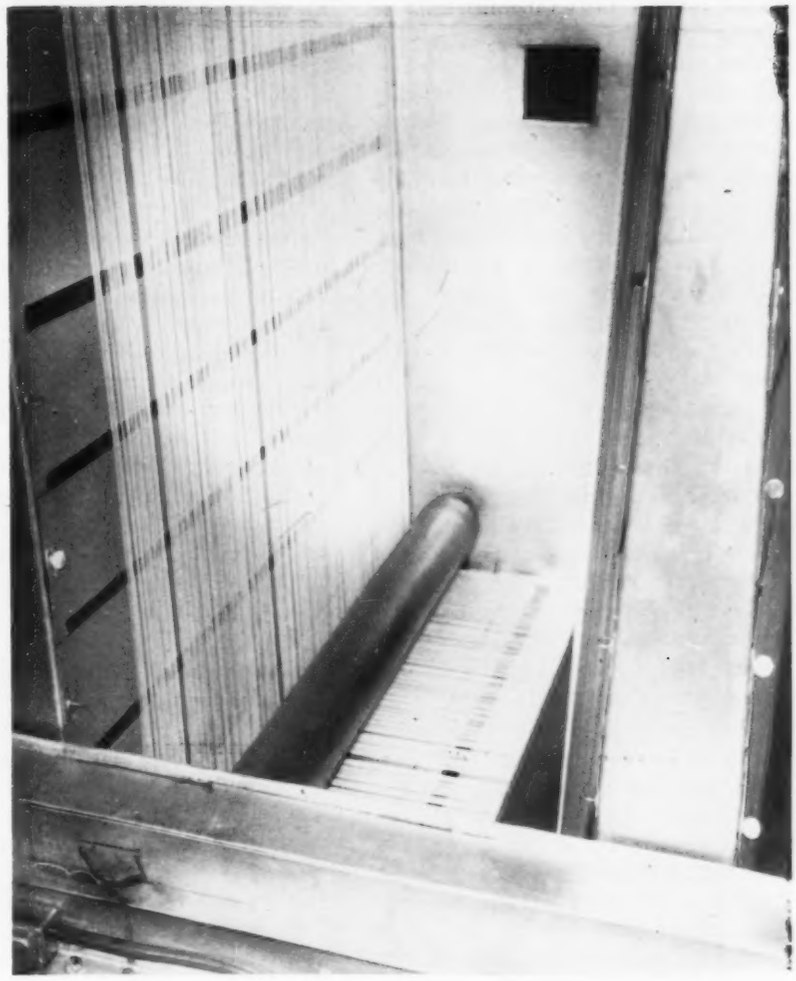
The cylinders may be either positively driven, or pulled by the yarns. In some cases, the first cylinder is pulled by the warp and the other is positively driven. Cylinder bearings should work well because a tight bearing may cause excessive stretch. The positively driven cylinders may also have a ratchet let-off to prevent the gears acting as a brake when the speed is not adjusted exactly to the yarn speed.

Drying Section—Hot Air. Up to the present the simpler operation of cylinder slashers and their lower heat and power costs have prevented adoption of other types in this country, despite claims of improved sizing. Work is continuing toward the development of an acceptable slasher that will not dry through a one-sided contact.

There are a number of different designs of hot air drying chambers. In one type, the yarn passes back and forth between rolls about six inches in diameter, making about a dozen horizontal passes across the chamber before leaving the chamber. Other designs feature large open cylinders or reels on which the yarn passes through the chamber in the same way that it goes over the cylinders of a steam-cylinder slasher. These reels have large fan blades inside them, which aid the circulation of air as they turn. A number of fans are usually required to control the air flow over the heating elements and through the chamber.

The heating element may be steam coils equipped with fins for heat transfer. Gas heat may also be used, in which case the combustion gases are mixed with air and led through the chamber.

Infra-red drying is beginning to make its appearance experimentally. This may be done either electrically or by gas. For electric drying, banks of special lamps of 250-1000 watts are mounted either below the yarn, or on both sides. The reflectors are built in the lamps, to direct the infra-red rays. With gas, the infra-red rays are produced by heating refractory material to incandescence. A good deal of heat is also produced by the combustion gases that assist in the drying.



View of interior of a hot-air drying chamber, showing yarn passing over air vents through which hot air enters the chamber.

Cooling Fans. A cooling fan is placed on the slasher just beyond the drying section to circulate air through the warp sheet and cool the yarns. This is necessary to insure that the yarn is at an even temperature while being wound on the loom beam, otherwise the contraction of the yarn on cooling on the beam will result in uneven tension.

Split Rods. Since the warp sheet

can readily be split into only as many fractions as there are section beams (due to the fact that leasing is done from these beams), the total number of split rods is one less than the number of section beams. These rods should be kept smooth at all times, and should they become grooved by the wearing action of the threads, they should be turned down and polished, otherwise chances of breaking out ends here are greatly increased.

A rather large split rod of about 3 or 3½ inches in diameter is used as the first split rod (or busting rod) to give the first separation into two sheets. This larger diameter causes the yarn to separate farther back from the rod, which lessens the chance of kinks. On extra heavy sets, two large rods may be used to divide the sheet into three parts.

For heavy sets it is also desirable to have a split rod dividing the yarn into two portions just before it goes to the drying cylinder. This should be a rod about 1½ inches in diameter, on the end of which is a pulley for the purpose of belting this rod to the shaft from the size box. This rod should be turned (in a direction against the top half of the sheet) to decrease the tendency of size to congeal on it. It should be cleaned from time to time. Through the use of this split rod the threads separate easily on the front of the slasher and cause fewer breakouts.

The Drag Roll. The drag roll (also known as the delivery roll) is a very important part of the slasher. It controls the tension, which in turn controls the stretch and residual elasticity. It is placed between the loom beam and the rest of the slasher to make certain that the tension on the wet yarns is constant, for as we have seen, if the yarn is stretched while wet, the stretch is set, and there is less residual elasticity which is so necessary for good weaving. There should be just enough cloth wrapped around the drag roll to give enough tension to prevent rolling of the yarns, slipping of the yarn sheet on the cylinders, and to prevent the yarn from kinking at the split rods and breaking out.

Whenever possible, gears should be changed rather than adding cloth to the drag roll. With too much cloth, the roll will have too much cushion.

Press Roll. The press roll is a free-running roll supported on two pairs of small rollers, used to pack the yarn tightly and evenly on the loom beam. The ends must be kept smooth to prevent catching and tearing the yarns. One good type of roll is the so-called "expansion roll," which is built of two parts. It has an inner spring that keeps the ends of the rolls pressed against the beam heads. The two sections have teeth at the joint, thus giving the effect of a continuous roll.

The rollers (on which the press roll rides) should be equipped with a mechanism for giving them a lateral reciprocating motion, so that grooves will not be worn in the press roll. Some slasher operators like to protect the ends of the press roll and the beam heads by discs cut from heavy leather, of the same diameter as the roll, fastened on the end of the press roll.

Some operators do not like the expansion roll because it wears the paint off the beam heads. They prefer a simple roll not quite the length of the beam, equipped with a traversing motion so that it moves slowly back and forth from one selvage to the other and does not press against both heads all the time.

This type of roll has several disadvantages. The traversing mechanism sometimes gets out of order, it takes up more space, and it is not long enough for the selvages. The selvages are not packed as uniformly as they are with the expansion roll. Choice of rolls, as with many other items, is a matter of personal preference.

The slasher tender should be careful not to try to get a hard beam by increasing the friction on the beam drive. There should be just sufficient friction to wind the yarn properly, so as to protect the elasticity of the yarn, and the beam should be packed by the action of the press roll alone. A roll too-tightly packed loses a great deal of the cushioning effect which helps the warp stand the strain of the beating up of the reed.

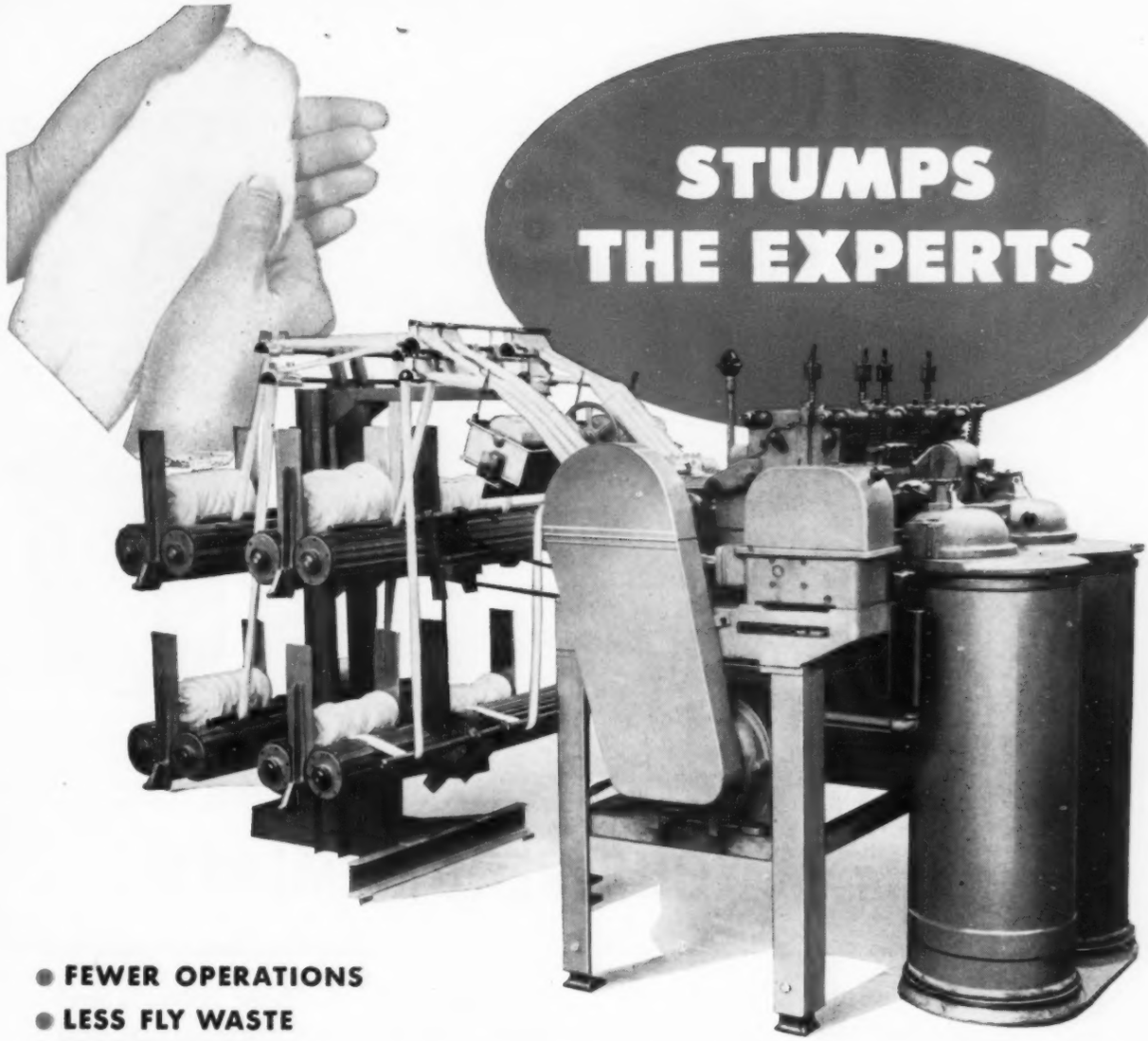
In order to start off beams without too much weight on the press roll, some mills have a system where the weight on the press roll is increased as the beam is filled. This is done by an arrangement which automatically slides the weight toward the end of the press roll lever. A rope or chain is fastened to a sliding weight and it is carried over a pulley on the end of the lever. It is secured to the floor so that when the roll is depressed, and the lever is raised, the weight is moved by the rope toward the end of the lever. Several modifications of an adjustable weight have been described previously.

Selvage Devices. In the device for running selvage threads outside the section beams, proper tension can be maintained if the threads are run from spools on a creel fastened to the slasher hood. On these spools light friction can be exerted. The threads pass from the spool down under a smooth rod, then under the finishing roll without going through the size.

When the selvage is run in the body of the warp with the section beams, the selvage should be separated and guided to the edge of the cylinder where it will be assured of sufficient drying surface to dry thoroughly.

In extreme cases the selvage yarn can be made to turn twice over one of the drying cylinders. If desired, the selvages may be run under the finishing roll alone. Plied selvages should never be run under both rolls, because the slasher (set to dry single yarns) is running too fast to dry plied yarns if they pick up much size—and mildewed selvages may result. With two-ply selvages, it is generally preferable not to try to size the selvage yarns, but simply to run the yarns through eyes attached to the slasher hood over the cylinders to join the main yarn sheet.

(To be continued)



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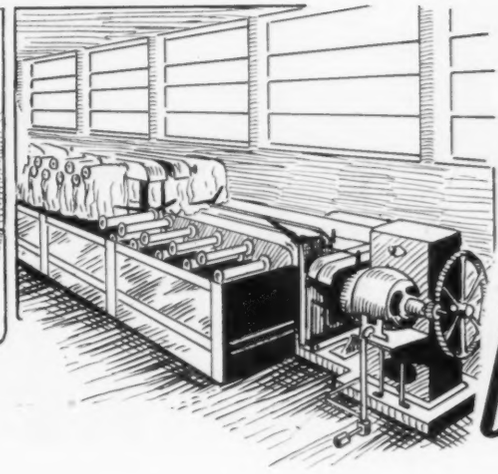

Rayon Yarn Dyeing

Article 5*

By **ROBERT W. JOERGER**
Chemist, Franklin Process Co.

THIS IS the fifth and final installment in this series of articles on dyeing rayon yarns. The author closes the series here with a presentation covering Indigosols on cuprammonium yarn, dyeing acetate rayon, and developed colors for rayon.

THE FACT that cellulose can be dissolved in an ammoniacal copper-hydroxide solution has been known nearly a hundred years. Although filaments were made fifty years ago, production of this rayon for commercial purposes was made possible by the efforts of J. P. Bemberg, who used a stretch-spinning technique in 1919.

Cuprammonium Rayon

Like viscose, cuprammonium rayon is a regenerated cellulose. It differs from viscose in that the filaments are finer, possess a higher wet strength, and have a much greater affinity for the cotton dyes. Commercial yarns range from 30/74 to 100/74. Thus, the individual filaments are from 0.4 to 1.3 deniers in size.

Similar to Silk

This fiber has a well-rounded cross-section and gives cuprammonium rayon greater covering power and a supple, silky feel. Its luster is less than either viscose or acetate rayons, and is more nearly like natural silk; the semi-dull variety has a pleasing, pearly appearance.

Care in handling and drying is necessary with such fine filaments. They must not be permitted to stick together through deposition of precipitates from hard water or roughness from dyeing equipment. Like the other rayons, it loses about half of its tensile strength when wet, but even then it is about 30% stronger per denier than viscose. Again, due to the fineness of the filaments, breaks and distortions are common unless precautions are taken. A lubricant in the dyebath, such as 1-2 lb. of soap per 100 gals. will help to reduce friction.

Characteristics

Cuprammonium yarns have three times as many filaments and much more surface area per denier than viscose. This important difference, along with a less oriented "skin" effect and probably larger pore size, explains why cuprammonium rayon has a much greater affinity for dyes than viscose. The initial strike is much faster, and equilibrium with the dyebath is reached sooner, but there is also more chance to level as the dyes pass in and out of the tiny fibers more freely. This fact may be used as a distinguishing test between these two rayon types. By choosing a slow-dyeing color, such as Chlor. F. Green BLL or Diamine Orange ER and dyeing the unknown with small samples of cuprammonium and viscose, the former will be fully dyed long before the latter.

All the dyes used for cotton and viscose are also suitable for cuprammonium. Direct colors are used extensively, and where wash fastness is required, the developed dyes are used. However, experience in dyeing viscose is no guide for dyeing this rayon and selection of proper working colors must not be left to chance.

Classification of Dyes

The most useful test is based on experience. Those dyes which have their maximum affinity at lower temperatures give more level re-

*Articles 1, 2, 3, and 4 of this series appeared in the January, March, April and May 1948 issues, respectively.

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sults. A temeprature range test should be run with those of potential use and the results classified into one of the five following groups.

Group 1. Those dyes having maximum affinity at 110° F and decreasing affinity with increase of temperature.

Group 2. Dyes having maximum affinity around 140°F. These have a little better than average wash fastness and are the general utility group.

Group 3. Dyes similar to groups 1 and 2 except that 180° F is the temperature of greatest absorption.

Group 4. Dyes with lowest affinity at 110° F and highest affinity near the boiling point.

These last two groups include fewer dyes and although they have better wash fastness, their poor leveling powers do not recommend them for use.

Group 5. Affinity not affected by temperature. These have rather divergent properties. Many of the dyes in Group 5 are useful and can be salted on where the affinity is too low. They are better than those in Group 2 for production of navies and blacks.

Special Rayon Colors

The special rayon colors recommended for dyeing uneven viscose are also useful for this rayon. One dyestuff manufacturer has a line of direct dyes selected especially for cuprammonium dyeing. To slow down the speed of dyeing, it is suggested that the dyeing be started above or below the maximum affinity of the dyes used. As previously emphasized, combinations should be made from groups 1 or 2 and not of the extremes, though shade or fastness may lead to compromises.

The dissolved dyes are better added in several portions and the dyeing carried out for such time as needed to get maximum leveling. As stated before, rapid dyeing at the start may result in initial unevenness but gradual exchange of dye is more likely to occur when dyeing time is extended. Glauber salt or common salt is not necessary and should be avoided except for heavier shades and some developed colors. They should be added in several small portions, preferably near the boil.

Consider Indigosols

To obtain the best fastness properties on this yarn, Indigosols should be considered because their application is simple and similar to that described under viscose. Vat dyes have a very great affinity with complete exhaustion in a few seconds. However, they are much more difficult to use. The pre-reduced colors have to be added in several portions in the presence of rather large amounts of retarding agents. Dyeing with naphthols has been outlined in the previous section.

Dyeing Acetate Yarn

Acetate rayon is made by several companies in this country and is marketed in several forms. The continuous filament yarns run from 30 to 300-denier sizes with individual filaments varying from 11-104 in number. Their average denier is from 2.5 to 4.0.

The bright acetate rayon has a pleasing subdued luster often compared with natural silk. There is also the delustered variety which is pigmented with titanium oxide. More recently acetate staple has appeared for mixture with other fibers. It runs from 1.5-20 deniers and is cut from 15/16" to 7" for use in various spinning systems. This may also be either dull or bright.

Acetate Widely Used

Much of the acetate rayon is used for the underwear trade, for dress goods, upholstery fabrics and draperies. The greater part of this material is piece dyed. In colored patterns yarn dyed acetate is needed for effect threads where the colors must stand cross-dyeing and fulling and for fancy hosiery where the other fibers are dyed later in a contrasting color. The properties of this yarn make it useful for electrical insulation where it has replaced natural silk to a very large extent.

Physical Properties

Like other rayons, acetate loses strength when wet. It is less than for viscose but the same precautions should be observed when handling wet in dyehouse operations. Bright acetate loses its luster when processed above 180° F, especially in liquors containing soap or some alkali. Of course, delustered acetate will stand temperatures up to 200°F. They both are thermoplastic at higher temperatures, so careless contact with hot steam pipes in any dyeing or drying apparatus must be avoided.

Different Dyeing Properties

This rayon is an acetate ester of cellulose which has remarkably different dyeing properties from the other regenerated rayons so far considered. The fact that it did not dye with the existing colors used for other fibers caused considerable anxiety when the fiber was first manufactured.

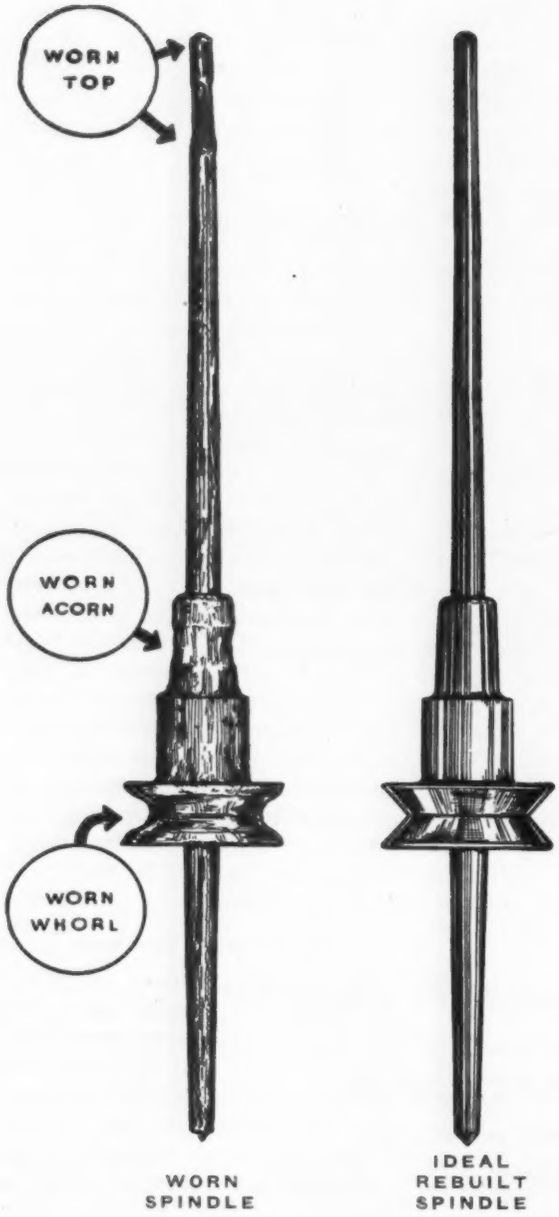
The main recourse was saponification of the fiber. This process involves the removal of some acetyl groups from the surface of the fiber by treatment with alkalies so that the usual cotton colors can be applied. The process is beset with many difficulties and is likely to give uneven results unless carefully controlled. Furthermore, there may be damage with loss in weight and tenacity. Today, saponification is still carried out on fabrics for some specialized applications but here it is mainly of historical interest.

Overcoming Problems

By the cooperative efforts of the makers of acetate yarns, the dye manufacturers and the experience of dyers and finishers, the problems were finally overcome and this success is one of the bright pages in the history of dyes.

The new era was initiated by the invention of the dispersion class of dyes in 1924 by G. H. Ellis in England. Now a full range of colors is available and when selected, they show adequate fastness though not comparable with vat fastness of the other rayons. This new type of dye preparation is still a fruitful field in which cheaper or faster substances are being sought.

Of the great number investigated many were eliminated because of lack of fastness in one way or other in respect to light,



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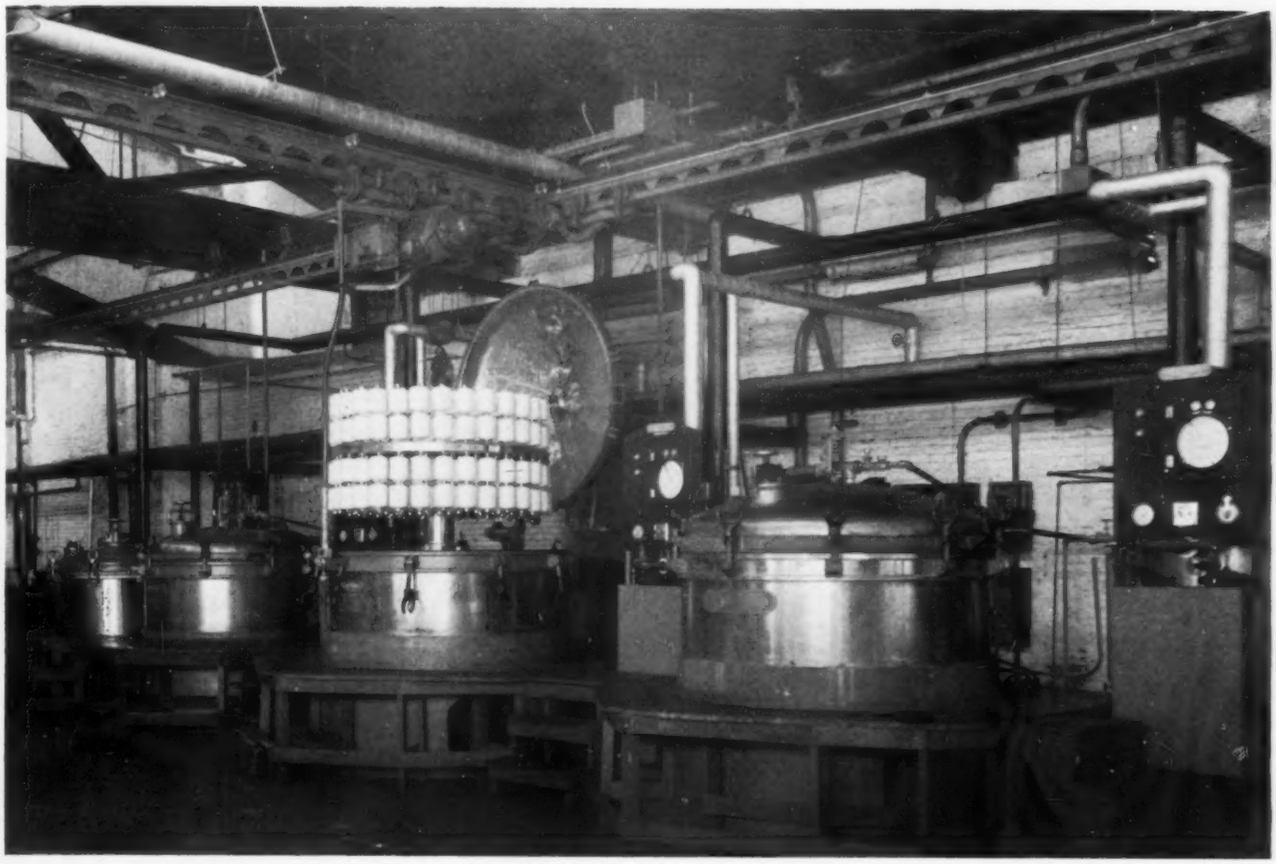

Courtesy, Smith, Drum & Co.

An installation of package dyeing equipment with automatic controls and instrument panels.

perspiration, acid, or alkalies. Some showed a marked tendancy to sublimate or become phototropic or gas fade. Others are likely to crock, to change shade on cross-dyeing or peroxide bleaching. There is quite a choice now available. Some members are very good in one or several of these properties.

A New Method of Dyeing

These new dispersed colors applied themselves on acetate cellulose by no known chemical or physical method. A variety of simple dyes belonging to the azo, nitrodiarylamine, or anthraquinoid groups, are prepared as fine dispersions or emulsions. When added to the dyebath the colloidal suspensions are absorbed on the surface of the acetate fiber and gradually diffuse within by what is known as a solid solution. It is significant that water in this case is the external medium and not necessary to carry the color within.

This operation of dyes was originally done by Ellis by use of sulphonated castor oil (SulphuRincinoleic Acid), hence the name SRA was applied to this brand of dyes which are still on the market.

Gas Fading

The introduction of these SRA colors was not without its problems, of which gas fading is still one that must be considered. This type of fading refers to the change in shade, to dull grays or reddish casts, that is likely to occur with dyeings made of colors at the blue-violet end of the spectrum.

Research has shown that certain fumes of nitrogenous nature that come from fires or gas exhaust in homes or factories affect the amino-anthraquinone derivatives which comprise the blue and violet dyes mentioned. Outstanding in this respect is 1,4,5,8 tetra-amino-anthraquinone, a beautiful blue shade which will turn quite reddish under these circumstances. Unfortunately it is still used to a large extent in spite of this grave defect.

For testing dyes and dyeings, the reader is referred to the standard methods devised by the American Association of Textile Chemists & Colorists. Methods of counteracting this fading from atmospheric exposure were sought; a part-way measure found is to after-treat such dyeings with substances which will neutralize or minimize the change. Many substances have been patented, such as derivatives of urea, benylamines, ethanylamines, and others. However, these are not generally wash fast. For dresses that are to be dry cleaned only this may not be disadvantageous. Progress in this category is still being made.

The other alternative was to invent better dyes and here several new products are available that are a vast improvement over the older types. Since the shades are desirable and the price is not out-of-line, these improved types should be used.

Application

The prime requisite of this type of dyeing is to get and maintain

a good dispersion. The dyes now sold are a great improvement over those available a score of years ago but they should not be handled carelessly. Generally, it is best to wet out the dyestuffs with cold water, pour hot water over them, and then bring to a boil, but never boil for any legnth of time. Additions to the dyebath should be made through a fine sieve or cloth.

The dyebath itself should have 1-2 lbs. soap to help hold up the dye throughout the dyeing time.

The different manufacturers each use their own dispersing agents and will recommend their own auxiliaries to use in the dyebath. Most of these are detergents of the sulfated fatty alcohols or amide types which are effective in quantities half as great as that suggested for soap. Besides being able to withstand hard water they are said to have added advantage in giving fuller shades with those colors which are sensitive to slight alkalinity. It has been recorded that even water softened by a lime precipitation process caused weaker shades in certain instances.

Clean Yarn Emphasized

The yarn should be scoured with soap and a mild alkali, but if quite dirt free it may be entered dry. The temperature is low at the start, say 120° F, and is brought slowly to 160-170° F and maintained there for 30 to 60 minutes until on shade. With delustered yarn the temperature may be run to 200°F.

The dyeing is done in hand tubs, roller type machines, and other machines but not generally on the pressure type where the package acts as a filter and does not allow the dispersons to circulate through the yarn. After a final rinse, the yarns may be oiled, using a vegetable type for textiles purposes and a mineral oil for electrical purpose goods.

Tests for Dyeing Properties

The testing of dyes for their properties, so that level self shades or better mixtures can be produced, has been emphasized in other articles and also comes into consideration here with the dispersal type dyes. Dyeings of skeins on the laboratory scale for the following purposes will be instructive and give the dyer a more intelligent use of the colors he has on hand.

1. Dispersion properties. Especially with the agents he intends to use in the dye bath. Poor dyes that are sensitive to high temperatures or show signs of becoming tarry should be avoided.

2. Dyeing rates. Made by immersion in parallel dyebaths for different intervals will show the constrasts between the various dyes.

3. Temperature range test. By making dyeings from 120-200° F at 20° intervals will show at what point the dye will give the best yield.

Skein dyeing in hand tubs.

4. Leveling test. Dye several skeins together. Separate and immerse each one with a new white skein in water (with or without soap) at 180°F. for ¼, 1, 2, 3, 4 hours and note how much color is transferred from the dyed skein to the white. The greater the transfer the more leveling one can expect. Some colors show little transfer even in four hours and are more difficult to use.

5. Build-up. One of the problems with dispersed colors is that some do not build-up to deeper shades, or if they do so, are likely to have poor rub fastness or even crystallize out later as if from a supersaturated solution. The individuality of the dyes can be studied by dyeing them in percentages from 10%-100% in steps and noting the point where no more value can be gained. Wherever possible, dyes which have similar dye rates, temperature range, and leveling properties should be used together in making mixtures.

Developed Shades

Acetate rayon will absorb many simple amino-azo substances which can be subsequently diazotized and coupled with a naphthol, much in the manner of after-treating direct dyeing colors on viscose, to get "developed" shades. The improvement in wash fastness is remarkable and many dyes will stand boiling with soap.

Light fastness is usually satisfactory but in some cases it is rather poor. For instance the blue shades from dark copen to navies produced by coupling dianisidine base with beta-oxy-naphthoic acid have been very popular for dress goods. A distinct change will show after 4 hours in the Fadeometer.

The range is quite extensive and includes golden yollows, scarlets, wines, reds, browns, navies, and blacks. Of these, the latter two are most extensively used. As in the case of naphthol combinations, these dyes have been made up of different bases with various developers which cannot be mixed very well to produce compound shades. They can be modified with dyes that will stand diazotizing and developing or by topping.

Preparation

The preparation of these bases for dyeing varies with the types; some require acid, and others require soap. More recently the dispersed types, ready to use, have been made available. In fact soap is not recommended with the blacks, and they should not be boiled. The dyeing proceeds along the lines stated, after which the yarn is cooled while rinsing. It is diazotized with a stronger mixture than is generally used for cottons because the acetate has rather low water absorption. For 100 gallons, 2½ lbs. nitrite of soda and 4-5 lbs. muriatic acid 32° Be. should be used no matter what the yarn liquor ratio is, so these figures are not given on a percentage basis.

Immersion for 30 minutes, cold, but not below 50° F is sufficient.

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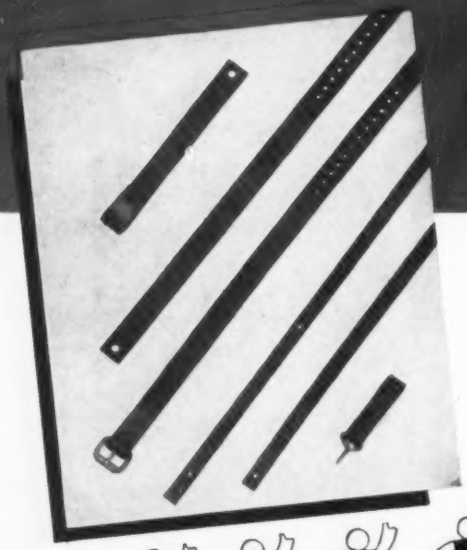

Another famous Emmons E-Man Presentation:

Emmons Loom Strapping is manufactured by Emmons to your sample or specifications. B. F. Goodrich Co. supplies the material, especially constructed for the purpose. This material is made up of layers of strong, heavy duck, impregnated with a soft pliable neoprene friction and is very resistant to stretching.

Emmons Loom Strapping is available in any length or width and in two thicknesses, 3-ply—3/16" and 4-ply—1/4". Eyelets, rivets, buckles, etc., can be supplied.

DOMESTIC "E" MEN at your Service

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CHARLOTTE	Branch Plant GEORGE FIELD, Manager P. O. Box 2036 'Phone - 3-7503
	WATSON & DESMOND P. O. Box 1954
NEW YORK	W. S. TAYLOR 52 Vanderbilt Avenue 'Phone - Lexington 2-6060
ATLANTA	ARTHUR HARRIS P. O. Box 1982 'Phone - Main 2643
CHICAGO	ALBERT R. BREEN 80 E. Jackson Boulevard 'Phone - Harrison 7140
DALLAS	R. D. HUGHES SALES CO. 1812 Main Street 'Phone - C-6283; C-6284

EMMONS PRODUCTS
Serving the Textile Industry

STEEL HEDDLES
HEDDLE FRAMES
COTTON HARNESS
REEDS
SELVAGE HARNESS
MAIL HARNESS
MENDING EYES AND TWINE
SLASHER AND STRIKING COMBS
EMMONS LOOM STRAPPING
(Manufactured by B. F. Goodrich Co.)
RUN-RITE PLASTIC SHEAVES
Manufactured by National Plastics, Inc.
McLANATHAN LEATHER PRODUCTS
Condenser Tapes • Wondertan Stripper • Belts • Aprons

EMMONS
WEAVE ROOM EQUIPMENT

After rinsing, treatment for complete coupling may be needed. This should be done in a fresh bath with the previously dissolved naphthols starting from 80-100° F, gradually increasing to 140, 160, or even 180° F.

The most common developer (as for navies and blacks) is 2-4% beta-oxy-naphthoic acid dissolved in one-fourth its weight of caustic soda, then carefully made acid with acetic to a pH of 4-4.5, which should be maintained throughout. Other developers, like phenol for yellows or beta-naphthol, and a diamine for browns may be used in special cases. After the usual rinses, a soaping finishes off the dyeing.

Water-Soluble Acetate Dyes

We have noted that the direct dyes for cotton have no affinity for acetate rayon. This is due to the fact that they have several sulphonate groups which make them soluble in water and less suitable to this rayon, which does not absorb water readily. A group of water-soluble colors known as the Cellit dyes are on the market. These apparently have but one sulphonated group, require Glauber salt for dyeing, and are not critical about dyeing temperature.

Much work has been done with acid colors, especially the faster milling types in attempting to dye acetate with them. Several special methods are available. In general they consist of swelling the acetate fibers in such a way that the pores are enlarged. The mobile acid dyes wander within, and are trapped when the swelling medium is removed and the normal fiber shape is recovered. The dyes are held inside so well they cannot be removed by a hard soaping. In other respects many are fast to light, to gas-fading, dry-cleaning, rubbing, milling, and even peroxide bleaching.

Many Methods Tried

Many methods have been tried and a few are used on a commercial scale. Only two will be mentioned here:

1. A solvent method which makes use of denatured alcohol to the extent of 60-75% in volume of the dyebath. The rest is water in which the acid dye is dissolved. The immersion of the yarn is at ordinary temperature, 90° F, and the saturation is often very rapid taking but one second. However, the dyeing time may extend from 5 to 20 minutes, but no more is necessary as there would be no more build-up of color. After drying in air at 130° F, the dyeings are soaped (5% by weight) at 160-170° F, rinsed, and then dried.

Consider Expense

The expense of the alcohol is a big factor to consider before adopting such a process because standing baths or even a recovery plant would be necessary on a practical scale. However, the evenness and fastness of the dyeing is remarkable. The yarn can be handled in package machines with great efficiency and less evaporation of alcohol.

A modification of the foregoing is obtained in the solvent mixture; shades. About 70-90% of the depth is obtained in the solvent mixture, the completion is done in the aqueous medium. The dyeing time is cut in half, compared to all-water methods, and is quite practical for long runs.

2. The method described in U.S. Patent 2,249,607, from which we quote: "A typical dyebath for 1000 lbs. of wound acetate yarn 200/64 consists of 4000 lbs. of liquor at pH below 1.4 made up with stock acid as follows:

1000 lbs. water
333 lbs. formic acid 85%
333 lbs. acetic acid 84%
333 lbs. sulphuric acid 20°Be. (or 85 lbs. of 66° Be.)

Dissolve dyes in 2000 lbs. hot water

Immerse yarn for 30 minutes at 80° F, bring up temperature slowly to 125° F, and immerse 90 minutes more. Give three rinses and then two soaps at 170°F, soften, extract, and dry.

Typical milling type of acid dyes will give good fastness. Such are: Polar or Milling Reds (Color Index Number 430), Wool Fast Blue BL (C. I. No. 833), Alizarine Cyanine Green G (C. I. No. 1078) and Fast Silk Yellow G. The tensile strength, elasticity, and luster are not affected when kept between carefully controlled dyeing limits.

The fastness to light, to peroxide bleaching, to cross-dyeing, and to washing up to 180° F are excellent. The process, as noted, can be handled in 1000-lb. batches and many hundred thousand pounds of a number of shades have been dyed this way.

Saponification and Dyeing

The saponification of acetate rayon has been mentioned and is still used for piece goods that are to be printed on dischargeable dyed grounds. A calculated amount of caustic soda or other alkali is used so that a 60% saponification is affected. This brings the liquor to a neutral point at the end of the reaction. The surface is then available for dyeing with cotton colors as for viscose while the core remains acetate, producing its superior draping qualities. In yarn dyeing where certain kinds of fastness are required as for effect threads, the treated yarn may be dyed with Indigosols in the usual manner ,or with modified vat methods. Indigoid or cold-dyeing anthraquinones, or strong-alkali vat dyes can be applied in the normal way and finished as usual (See English Patent No. 517,751). Indigoid dyes can be dissolved with the aid of soda ash or trisodium phosphate and hydrosulphite. The strong-alkali vat dyes can be dissolved with caustic soda and hydrosulphite, then neutralized with bicarbonate of soda.

The End

Steel Heddle's 50th Year

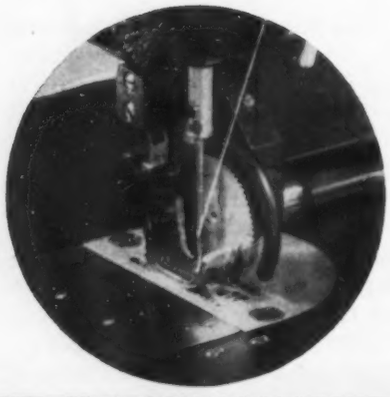
The Steel Heddle Manufacturing Co., Philadelphia, Pa., is celebrating its 50th year in business. The company started in a modest little machine shop in Philadelphia in 1898, and is now the operator of four large plants. In 1906 a heddle was developed by the company for the manufacture of cotton fabrics, heddles for silk weaving having been made previously.

Over 2,000 different types of heddles have been manufactured by the company to meet demands. The company also makes all metal reeds and pitch band type reeds. The Southern Shuttles Division was established in 1933, with headquarters at Greenville, S. C.

UNION SPECIAL

Built to cut PRODUCTION COSTS

IT'S new! It's better! It's faster! It's the new Union Special Top Feed Lockstitch machine. Few new machines have ever offered greater advantages to manufacturers anxious to cut costs and improve product quality at the same time. The Top Feed Lockstitch is another in a series of new developments being made available to the needle trades as rapidly as manufacturing conditions permit. FOR THE BEST IN MODERN SEWING EQUIPMENT, LOOK TO UNION SPECIAL!



MEETS A NEED!—Top roller feed, in combination with regular machine feed, facilitates sewing of parts that must match. Ideal for such operations as attaching collar bands to collars on shirts, stitching down waist band curtains on work pants, and run-stitching and topstitching collars and cuffs on dress shirts.

ADJUSTABLE FEED—Top feed can be adjusted to run faster, slower, or at same speed as the regular machine feeding mechanism.

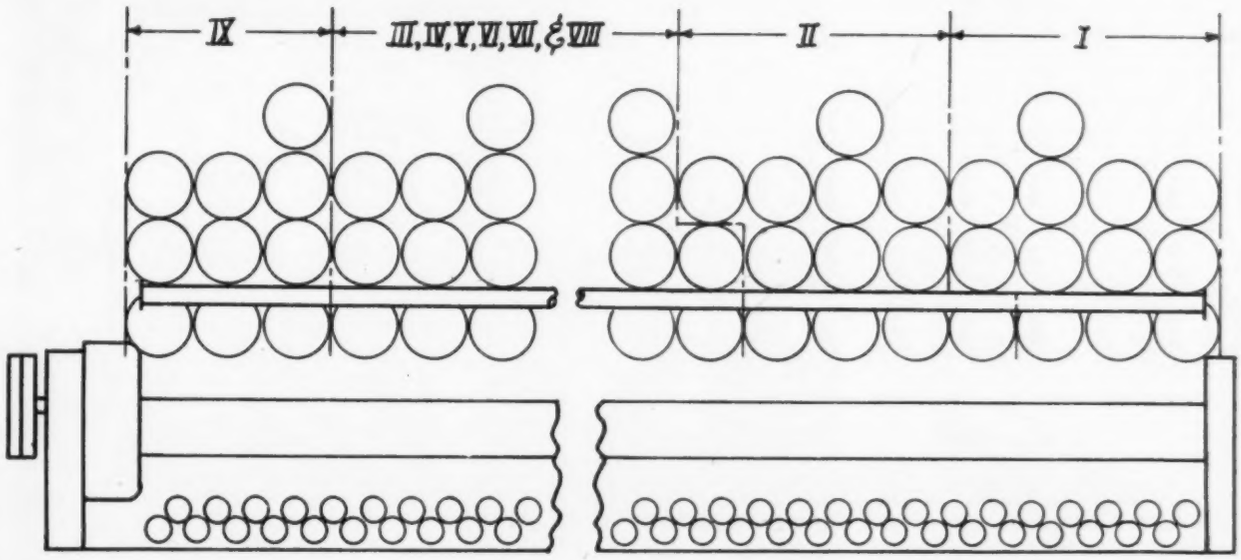
SMOOTH, EFFORTLESS SPEED—Inertia and friction are reduced to a point where they have virtually no noticeable effect on the light-running, high speed characteristics of the new streamlined Lockstitch machine.

STYLES—Produced in *Style 61300 KA* for light to medium work and *Style 61300 LA* for medium to medium heavy work. Information on request. See your local Union Special representative, or write.

INDUSTRIAL SEWING MACHINES

UNION SPECIAL MACHINE COMPANY • 407 N. FRANKLIN ST., CHICAGO 10, ILL.

How OTHER MEN Manage



Method for Creeling Slubbers

This item was submitted by a contributor in a "kink" contest.

EDITOR TEXTILE INDUSTRIES:

There are many methods in use for creeling slubbers. Each mill seems to have a method which is the "best solution." The ideal method for performing any operation is the one which gives the greatest operator and machine efficiency, best quality, and the least amount of waste.

The method for creeling slubbers as outlined here is the "best solution" used in a well known Alabama yarn mill. One operative is assigned two or more slubbers and it is his job to operate each frame (to which he is assigned) without any help. He doffs, starts up, tends, and creels each frame.

Immediately after starting up a frame, the operative creels in the number of full sliver cans required to furnish the necessary poundage to produce a frame doff. Creeling is performed while the frame is in operation.

The sliver cans are not run completely empty, therefore they must be broken out when full cans are creeled in. These piece cans are spliced into one can until the can is filled. The resulting full can is creeled in on a succeeding doff.

The number of cans to be creeled in per doff is computed by dividing the total net pounds of

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THROUGH the exchange of ideas in this department, readers can be of valuable assistance to other mill men. You are invited to make use of this section of "Textile Industries" for the discussion of problems arising in the textile manufacturing or finishing plants, or for the presentation of new ideas of interest to other readers.

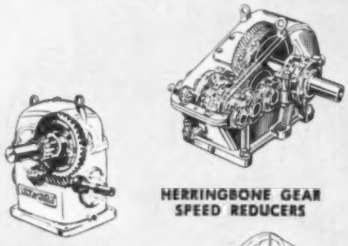
Questions, answers, or letters need not conform to any particular style.

Names or connections of contributors are never used without permission, each participant being designated by a number.

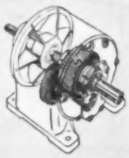
Payment will be made immediately upon acceptance of contribution.

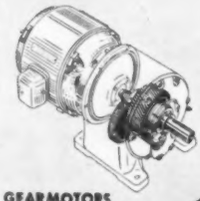
Correspondence should be addressed to: Editor "Textile Industries," Grant Building, Atlanta 3, Georgia.

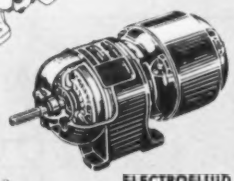
OTHER TYPES OF LINK-BELT POWER TRANSMISSION MACHINERY


HERRINGBONE GEAR SPEED REDUCERS

WORM GEAR SPEED REDUCERS


HELICAL GEAR SPEED REDUCERS


GEARMOTORS


ELECTROFLUID DRIVES

P.I.V. GEAR SPEED VARIATORS

SILVERLINK ROLLER CHAIN DRIVES

SILENT CHAIN DRIVES

STEEL AND MALLEABLE CHAIN DRIVES

V-BELT DRIVES

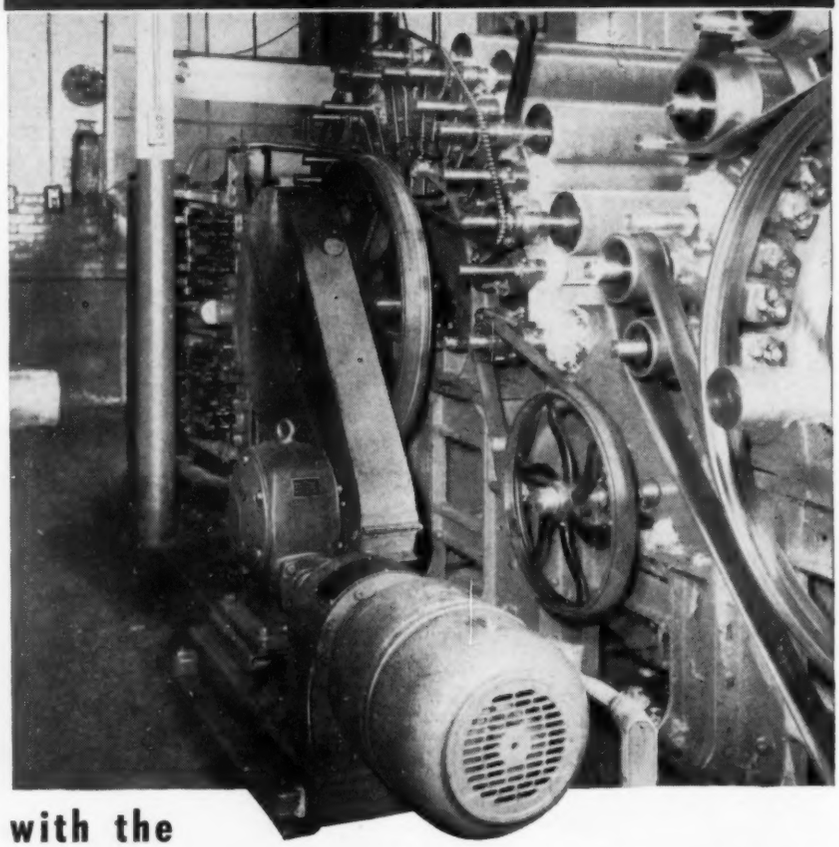
UNMOUNTED BALL AND ROLLER BEARING UNITS

ROLLER BEARING MOUNTED UNITS

BALL BEARING MOUNTED UNITS

BABBITTED BEARINGS

SMOOTH, EASY STARTING at Minimum H.P.



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Power Transmission Machinery

roving produced per doff by the net weight of sliver to be run from a can. It has proved practical to compute the number of cans required per doff with approximately one pound of sliver left in the cans broken out.

The illustration on page 139 shows the slubber with cans arranged for this method of creeling. In this case the frame has 106 spindles; full sliver cans contain 15.0 pounds. 1.2 pounds of sliver is to be left in the cans broken out, and the net weight of roving on the bobbin is 1.44 pounds.

106 × 1.44 = 152.6 lbs. of roving produced per doff

14.0 lbs of sliver per can
—1.2 lbs of sliver to be left in cans broken out

12.8 lbs. of sliver used from each can

152.6 ÷ 12.8 = 11.92 cans to be creeled in per doff.

In this case, creel in twelve cans each of eight doffs, and ten cans on the ninth doff. Creeling must be performed in the proper sequence at all times. Figure 1 shows the sequence of creeling by can groups. Group I is creeled first, followed by group II, and so on through group IX. Group IX is followed by group I and the process is repeated. Initially it is advisable to mark the cans by creel groups. After the operatives have had several days' experience, marking is not necessary.

The advantages of this method of creeling slubbers are:

1. The frame is creeled without stopping production, thereby increasing machine efficiency.
2. The work of creeling is divided evenly for all operatives. This is an important factor in two and three shift operations.
3. The operative spends a small amount of time creeling each doff instead of considerable time less frequently, thus permitting multiple machine assignment.
4. There is no wait on the part of the operative or the machine for other personnel to creel-in sliver.
5. Waste is negligible because all cans are broken out, pieced, and turned into cans to be used later.
6. The requirement is less for stock in process, sliver cans, and floor space.
7. This method permits individual payment of slubber operatives by the shift on a piece work or work unit basis. It is well known that this type of wage payment results in increased operative efficiency and better work.

CONTRIBUTOR No. 8054

Conveyor Belt in Cloth Room

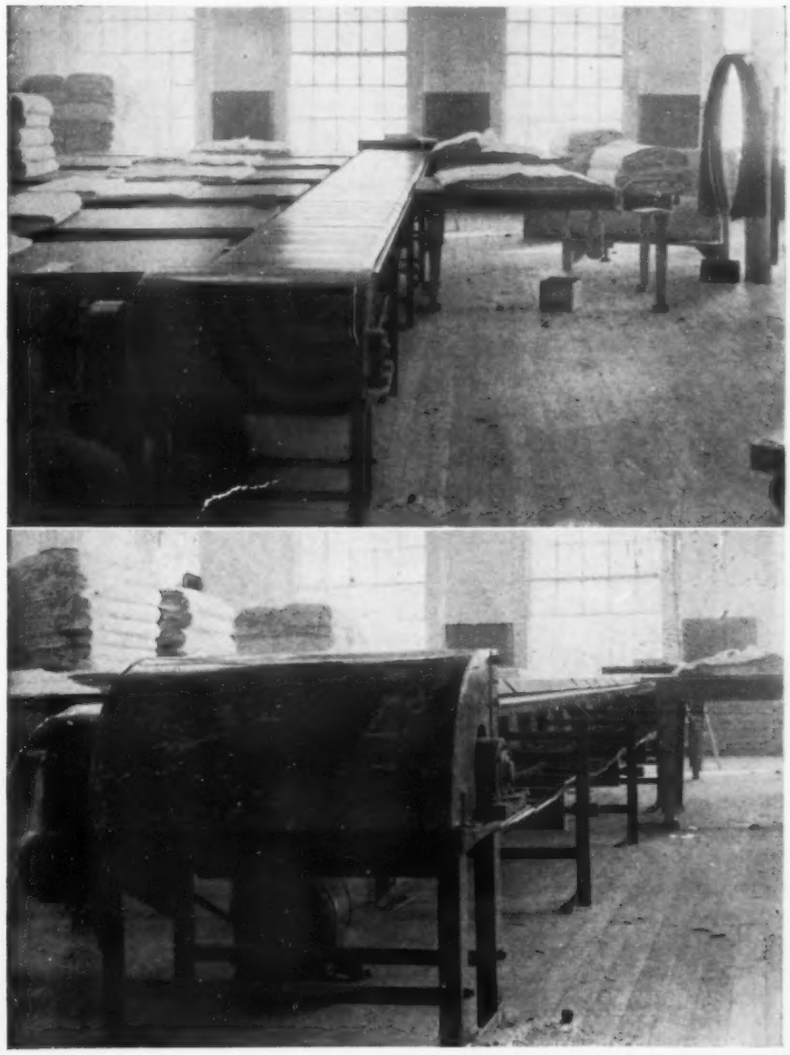
EDITOR TEXTILE INDUSTRIES:

A conveyor system has been installed in our cloth room to enable cloth graders to inspect cloth continuously without having to wait for a fresh supply after grading each batch of cloth.

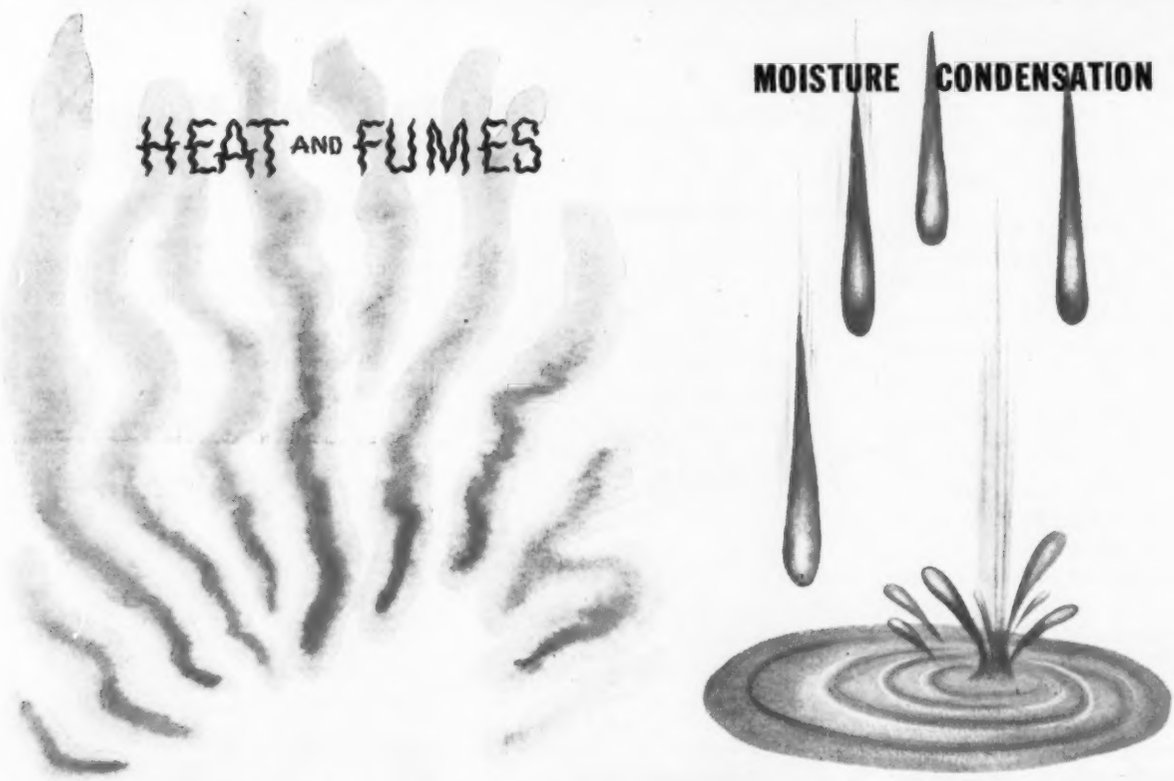
The conveyor belt is controlled by means of switches located on the floor by each grader's table. Cloth is deposited on one end of the table, and the graders control movement of the goods as it is needed by operating the switches.

The conveyor (see accompanying illustration) was made in the mill shop. The motor and a few other parts were purchased.

CONTRIBUTOR No. 8052



THESE CONDITIONS ROMPING THROUGH YOUR MILL?



Beat 'em with a Specially Formulated SAVE-LITE® WHITE

FOR WALLS AND CEILINGS

Don't let these adverse conditions take money from your pocket—beat 'em with Save-Lite White!

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Let us tell you how to make the fullest use of our specially formulated Save-Lite Whites. Write or phone our Textile Division, 222 West First St., Charlotte 1, N. C., or 320 Peachtree St., N.E., Atlanta 3, Ga.

The Sherwin-Williams Co., Industrial Division, Cleveland 1, Ohio. (Export Division, Newark, New Jersey.)

ANOTHER PRODUCT OF SHERWIN-WILLIAMS INDUSTRIAL RESEARCH

SHERWIN-WILLIAMS
INDUSTRIAL FINISHES

Automatic Device for Warper Comb Cleaner

EDITOR TEXTILE INDUSTRIES:

We have a warper comb cleaner that was installed to remove the lint from the warper comb while in operation. The installation was equipped with a hand lift to raise the hood when the warper was stopped.

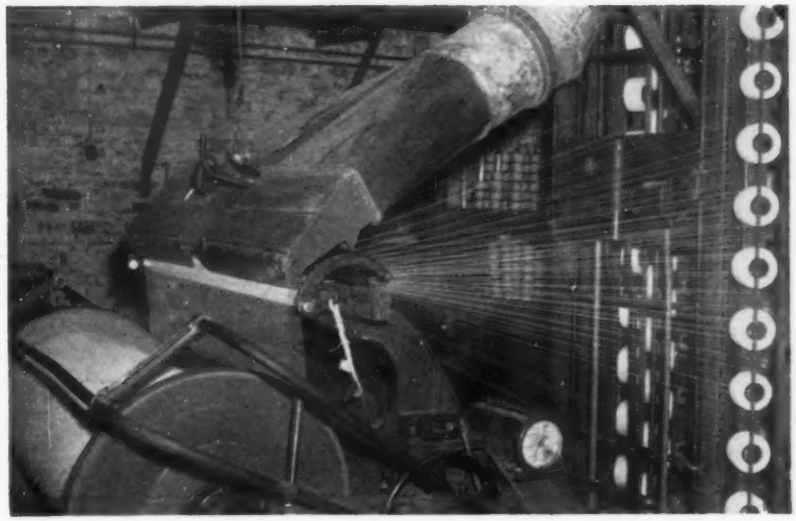
Our master mechanic has devised a system to lift the hood automatically when the warper stops. Two solenoid valves were installed on the wall (see Fig. 1). These were connected to the electrical stop motion of a Barber-Colman warper.

When a thread breaks, the current that operates the stop motion is interrupted on one solenoid valve, allowing compressed air to enter the air cylinder (shown in Fig. 2). The air cylinder then raises the hood automatically.

When the warper is started, the other solenoid valve is activated thus releasing the air in the cylinder. When the air is released the hood is lowered.

The solenoid valves were purchased, but the air cylinder was made in the shop. The arrangement eliminates manual controls and facilitates time savings.

CONTRIBUTOR NO. 8053



The hood is shown here in operating position. Note the cable which is connected to the air cylinder (shown in Fig. 2 below) that raises and lowers the hood.

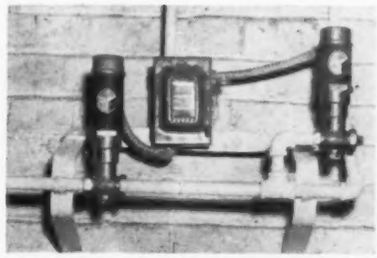


Fig. 1. One of these solenoid valves allows compressed air to enter the air cylinder which raises the hood. The other valve releases the air, allowing the air cylinder to lower the hood.

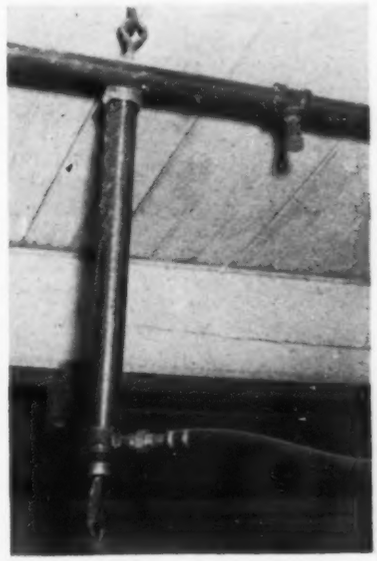
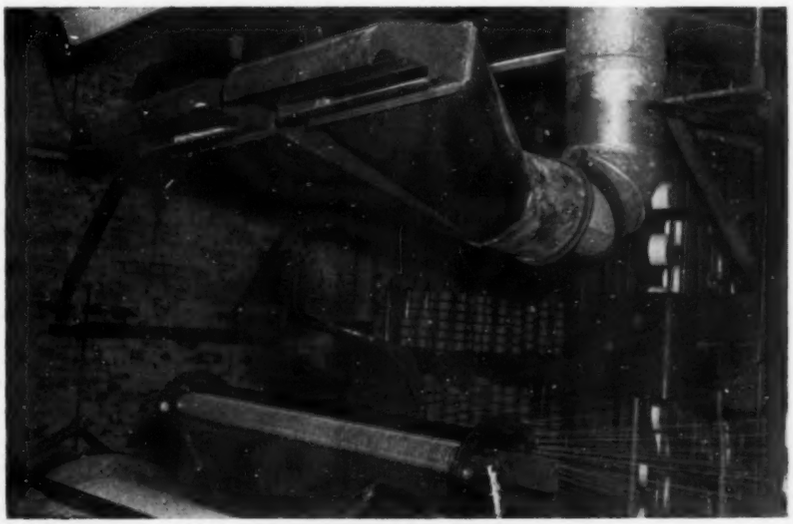


Fig. 2. The air cylinder shown here raises and lowers the hood. It is controlled by the solenoid valve arrangement.



Left, the warper comb cleaner hood is shown in the raised position.

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Knitters and customers everywhere applaud the excellent performance of STANDARD Durene.

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You can count upon STANDARD Durene's outstanding uniformity, its free-running smoothness. Every step of its processing, from selected raw cotton to the finished yarn ready for your machines, is rigidly controlled right in our own plants. It must pass the high quality standards dictated by our more than seventy years' experience, our constant research, as well as the many tests in our modern laboratory. Ask our representative to show you how STANDARD Durene can help get greater production and win easier sales.

*REG. U.S. PAT. OFF.

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REPRESENTATIVES IN CENTRAL AND SOUTH AMERICAN COUNTRIES

Fire Extinguishers in Textile Plants

THERE WAS A fellow who once bought a fire extinguisher to hang in his house as an ornament. He isn't around any more. Because when the house burned down, he and the extinguisher burned with it.

When nothing goes wrong in the plant, its fire extinguishers may appear to be merely ornamental, but when fire breaks out, the extinguishers immediately become vital equipment. That is why they must be kept ready for immediate use, or they may not deliver when they are sorely needed.

Fire extinguishers should be inspected regularly as part of the plant's regular maintenance inspection, and their fluid should be renewed periodically. It is far better to renew fluid frequently than to chance its deterioration to the point of inefficiency.

Extinguishers of the soda acid and foam type should be recharged at least once a year. Some other types need recharging only after use.

Every fire extinguisher should have a tag attached to it showing the date of its last recharging and servicing.

It is also very unwise to substitute parts other than those made by the original manufacturer; sometimes on other types of equipment we can take such chances, but with fire extinguishers the rule should always be no chances.

Experts also advise us never to recharge a vaporizing liquid extinguisher with ordinary carbon tetrachloride, or to use water to test its operation, as either of these will cause corrosion. Also they say it is not wise to lubricate any part of an extinguisher.

Nozzle openings should be checked frequently to make certain that they are clear, and gaskets should always be tight; when they are even slightly damaged they should be replaced.

Extinguisher shells can be rinsed thoroughly with warm water for cleaning. An ordinary piece of thin wire will serve to open any clogged holes in the hose strainer.

CONTRIBUTOR NO. 8073

Spare Parts Supply Depot

This item submitted in a "kink" contest.

EDITOR TEXTILE INDUSTRIES:

In the usual weave shed running cottons and other yarns, it is not unusual for loom fixers to have sections of one hundred or more looms. In this size section, as well as in smaller sections, when a part breaks, the weaver puts up the break-down flag or light. The fixer brings his tote kit, and most generally, finds a pick stick, lug stick or some other item in need of a new replacement.

Finding such a break, it becomes necessary to walk back to his bench or to the supply room. The loom, in the meantime, stands idle awaiting his return.

A more efficient loom section would be had if a suitable supply depot would be placed farther away from the fixer's bench, giving an additional location where parts would be more accessible, thus lowering the time required to secure the needed part to make the repair. (It is assumed that the fixer keeps a supply of parts at his work bench.)

In large weave rooms, spare-parts depots could be easily fashioned on a panel arrangement, and solidly secured to a central location. On this panel could be mounted check straps, pickers, a few cams, dobby jacks, and other parts that are more frequently required. Once each week the stock-room attendant has supplies checked so a full line of stock is renewed each week.

As a further means of eliminating tiresome treks from one point of the plant to another, the depot is supplied with a two-compartment debris container. The fixer throws the waste junk into the one part, and the better strappings and other parts that can be repaired into the second compartment. When supplies are replenished at the depot, the discarded accumulations are removed.

CONTRIBUTOR NO. 8058

KINK CONTEST WINNER

Winner of the "Kink" Contest which closed May 12 was V. L. Cathey of Lindale, Ga. The award has been made, and the winning kink will appear in an early issue. See page 147 for announcement of new contest.

Cleaning Creels on Spinning Frame

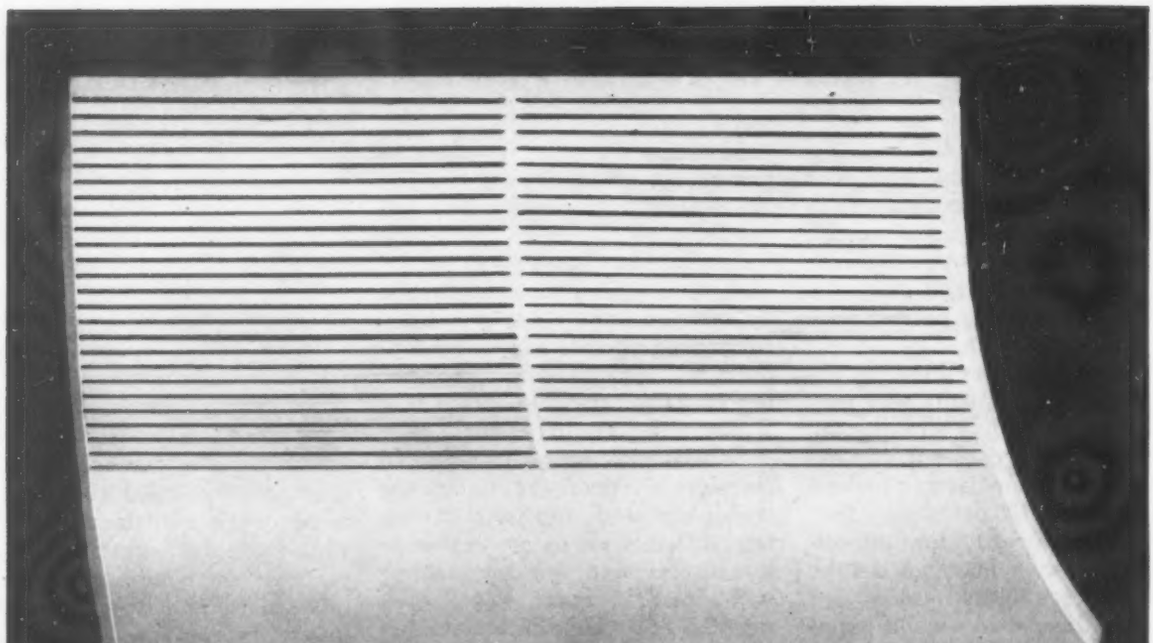
Question Briefed: *We would like to know how other mills clean the creels on spinning frames making fine counts of yarn. How much time should be spent in cleaning creels, and should this job be done by the spinner or by special cleaners?* (CONTRIBUTOR NO. 8064, *April*, 1948.)

EDITOR TEXTILE INDUSTRIES:

Our spinners do the cleaning. There are two stories of creels on our machines. The first shift spinners clean the top story daily, and the second shift spinners clean the bottom.

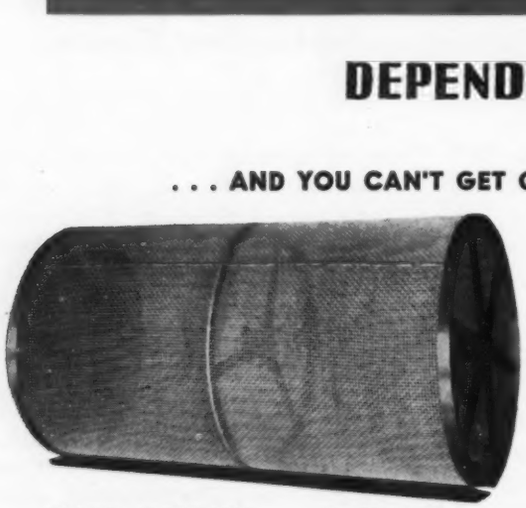
Each spinner runs 13 sides (1716 spindles) on fine yarn. This means that he has 1716 bobbins and skewers to lift in order to remove the accumulation of lint. We are running two ends up per spindle on most of our work.

The spinner takes a stick (12 to 15 inches long), skillfully inserts it between roving strands, and moves it in and out each time



GOOD *Yarn* DEPENDS ON GOOD *Carding*

. . . AND YOU CAN'T GET GOOD CARDING WITHOUT GOOD SCREENS



CARD SCREENS . . Perforated or ribbed types, precision built to standard specifications.

PICKER SCREENS . . English mesh, 1/4 inch wire, or perforated metal. End bands continuous and smoothly welded. Seams welded to prevent melting in case of fire.

The only way to be sure screens are in good condition is to take them out for inspection at regular intervals. Screens that are bent, cut, or frazzled will not produce a high class sliver to say nothing of the excess waste they cause.

Check your screens now . . . and place your order for enough spare card and picker screens to meet any emergency. It's cheaper to stock them than to wait for repairs.

PROMPT SERVICE . . . We have recently enlarged our facilities to give you prompt service on all makes and models of new and rebuilt card and picker screens.

JENKINS METAL SHOPS
Incorporated

GASTONIA, NORTH CAROLINA

he lifts the roving bobbins. He rolls the stick slightly while retracting it. Lint accumulations are rolled onto the stick in this way.

The operative is supposed to start cleaning creels at the beginning of the shift if all ends are up on the frames. Sometimes the shift is half through before cleaning is finished because the operative has to keep ends up while cleaning the creels.

It is desirable to have spinners do the cleaning because special workers may not have the same interest in doing a good job. In this instance it is very easy to damage or break roving ends, thereby increasing the number of ends down.

CONTRIBUTOR No. 8068

Split Laps on Combers

Question Briefed: *What causes split laps on combers? By split laps, I mean that the lap unrolls evenly and some of the cotton clings to the roll while the remainder of the cotton goes into the comber. This fills up one end of the lap and makes the subsequent sliver lighter.* (CONTRIBUTOR No. 8065, *April*, 1948.)

EDITOR TEXTILE INDUSTRIES:

An occasional split lap on combers can be observed in the best mills. When split laps occur too frequently many things may have to be checked.

The trouble can be too much draft at the lap machines. Draft at ribbon lappers should not exceed 5½ to 6. Sliver lappers should not draft more than 1.8.

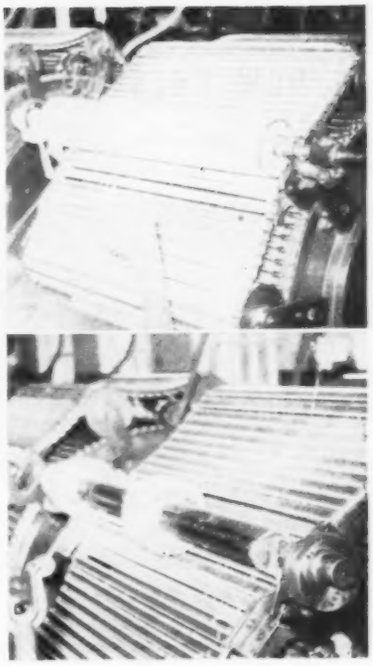
A slight roughness on the side discs may cause the lap to "wedge" while it is being wound. Sometimes a small lump of trapped waste may do this. It is my opinion that in most instances the work made on the ribbon lapper may need an inspection.

If roughness on the shell roll is detected, it should be eliminated. Sometimes the incoming sheet of cotton slips slightly over the side of the shell roll before being deposited on the lap core. The guides should be set to prevent this condition. If the machine fixer thoroughly understands the lapping machines, he may detect many other causes of undesirable conditions.

Split laps may be caused by a combination of several conditions, and it is difficult to predict all of the causes possible. However, it may be advisable to check roller settings, and see if the lap core is too long, thereby causing unnecessary wide space between shell and discs.

CONTRIBUTOR No. 8069

Discussion on Card Grinding



EDITOR TEXTILE INDUSTRIES:

For the benefit of those in the textile industry who are in doubt about the merits or demerits of grinding card flats with traverse grinders, we are glad to tell the results of our experience with this method as compared to grinding flats with drum grinders.

One big advantage of grinding flats with the traverse grinder is that you get a "plow" grinding effect. In other words, you get an improved point which is sharpened on both sides.

Another advantage is that you can grind much faster. We grind a set of flats in six hours with the traverse grinder, and it requires 8-10 hours to do this job with the drum grinder (see illustration).

Hollow grinding is eliminated by use of the traverse grinder. Drum grinders have light necks which are easily bent, and this will cause hollow grinding of the flats.

We have a few drum grinders which are being replaced as fast as new traverse grinders can be purchased. Our other grinders for flats are the traverse type which have been in use for three years.

Better points, elimination of hollow grinding, and faster grinding are desirable factors which definitely give the preference for use of traverse grinders for flats in our plant which produces a high grade of combed yarn.

CONTRIBUTOR No. 8060

$100 for Best Kink or Short Cut

(Ends August 10, 1948)

ONE HUNDRED dollars will be awarded the contributor who furnishes the most helpful short cut, kink, time-saving device, cost-cutting suggestion, or quality improvement idea by August 10. The contest may be entered by any reader of this magazine, but the kink must not have been published elsewhere.

In sending in ideas, give complete description and where possible accompany description by sketch. Finished drawings are unnecessary. Participants are not restricted as to number of kinks submitted for consideration.

Only one award will be made, but non-winning contributions will be paid for at regular rates if used. Advise in original correspondence if participant's name may be used, or if contributor number is preferred.

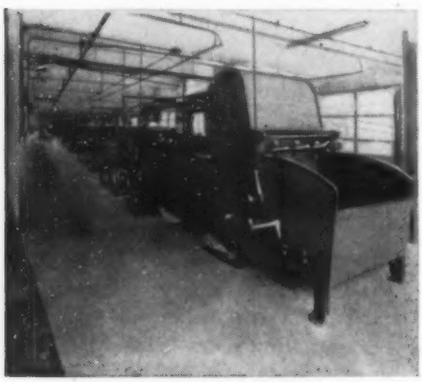
All entries must be postmarked not later than midnight of August 10, 1948. Address: Editor "Textile Industries," Grant Building, Atlanta, Georgia.

HOW THESE OPERATIONS CAN GIVE YOU THESE RESULTS

KIER-BOILING OF COTTON

Clean, Absorbent Cottons

After weaving, grey goods are kier boiled with caustic soda under pressure for 8-12 hours to remove gums, waxes, pectins and motes. The ideal soap for this job is Armour's CERTIFIED—because CERTIFIED provides more rapid penetration into the fiber and better emulsifying properties. CERTIFIED, a vegetable fatty acid base soap, not only loosens dirt thoroughly—but also holds it in suspension until these impurities can be flushed away. Results: soft, clean absorbent fabrics ready for subsequent bleaching, dyeing and finishing operations.



RAW WOOL SCOURING

Soft, Lofty Wool

Raw wool is scoured to emulsify and carry away the natural grease and foreign matter on the wool. Since scouring is done at 115-120° F., the soap used should have a low-titer for ready solubility and rinsability. Armour's TEXSCOUR is your answer! TEXSCOUR forms a grease emulsion which can be broken down readily to reclaim the lanolin—and yet the emulsion is tight enough to carry away the grease and dirt. Besides, TEXSCOUR, a red oil base soap in flake form, exerts a buffering action on the wool and gives a softness to the hand which synthetics do not permit.

PACKAGE DYEING OF YARNS

Even, Uniform Dyeing

In package dyeing, the dye solution must penetrate rapidly, thoroughly and give the same shade to the inside as to the outside of the package of yarn. So in this case you need a synthetic detergent with high wetting and penetrating properties rather than a soap with high detergency. You need Armour's No. 412 REGAL Detergent. No. 412 gives you the powerful penetration required to prevent channeling of the solution and to provide ready access of the dye to all parts of the package. No. 412 is completely stable and effective under all dyeing conditions for all types of fibers.

Remember, There are Armour Soaps and Synthetic Detergents to Solve All Your Textile Problems.

ARMOUR and Company

Industrial Soap Division

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PERSONAL NOTES

ABOUT MEN YOU KNOW

SIDNEY COX, former foreman of examining at Fieldcrest Mills' woolen mill at Spray, N. C., has joined M. T. Stevens & Sons, Rockingham, N. C., as foreman of burling and mending.

ALBERT H. GORDON, a partner in Kidder, Peabody & Co., has been made a director of Burlington Mills Corporation.

F. P. BRENNAN, manager of the Los Angeles laboratory of the United States Testing Co., Hoboken, N. J., has been elected chairman of the new Pacific Coast section of the A. A. T. C. C.

THOMAS F. PARKS, former chief wool buyer for Collins & Aikman Corp., Bristol, R. I., has become associated with William Whitman Co., Inc., New York, as assistant wool buyer.

CHARLES S. UNDERWOOD, former New York representative in charge of styling, merchandising and selling for Brookside Mills, Inc., has joined William Whitman as vice-president in charge of the cotton and rayon fabrics division. BERT E. SCHROEDER has been promoted to manager of the grey goods department of the cotton and rayon fabrics division of the same company.

WILLIAM D. CARTER, former assistant to the president of Wilkes-Barre (Pa.) Lace Mfg. Co., in charge of sales and manufacturing, has been appointed superintendent of Seaboard Mills, Burlington, N. C.

BERNARD W. CROWE, former overseer of weaving for Callaway Mills, Elm City plant, LaGrange, Ga., has become associated with United Rayon Mills, Elberton (Ga.) division as overseer of weaving.

GEORGE RAMSDEN has taken over the duties and responsibilities of BENJAMIN THOMAS, assistant superintendent of the Woolray Unit, Nashua division, Textron, Inc.

The Felt Association has announced the following as their newly elected officers: CORNELIUS A. HUBNER, president, Central Felt Co., New York, was made president succeeding ARTHUR N. SUDDUTH, James H. Rhodes & Co. LYNDON S. ROSENAU, Standard Felt Co., New York, was elected vice-president. HERBERT S. BLAKE, JR., president, Organization Service Corp., was re-elected secretary-treasurer.

BENJAMIN L. WHITTIER, former fabric development engineer with Mount Vernon-Woodberry Mills, Inc., Baltimore, Md., has been appointed as head of the department of fabric development and construction

Mr. Whittier

in the School of Textiles at North Carolina State College, Raleigh, N. C. Mr. Whittier will succeed PROF. T. R. HART, who has become director of instruction in the School of Textiles.

JOHN MARSHALL TULLY has joined Roanoke (Va.) Mills, Inc., and has been given the duties of assistant engineer in charge of production.

NEIL W. ASHE, former vice-president and treasurer, has been elected president of Ashe Hosiery Mills, Knoxville, Tenn., to succeed his brother, the late RAGON ASHE.

MRS. FRANCES M. FAY, former commercial illustrator in Boston, Mass., has received the appointment as designer for the entire line of infants', children's and teen-age knitwear for the William Carter Co., Needham Heights, Mass.

ARTHUR ROSS, JR., has been appointed president and treasurer of Tip-Top Hosiery Mills, Inc., Asheboro, N. C. MRS. MARGERY E. ROSS was made vice-president, and C. M. LANE, secretary.

The Oscar Johnston Cotton Foundation has been formed as a tribute to OSCAR JOHNSTON, who recently announced his retirement as president of the National Cotton Council.

For Over a Quarter of a Century
STODGHILL and COMPANY
ATLANTA GEORGIA
has supplied the South with
"The Size That Satisfies"

SLIX

Trade Mark of the original product for separate application of warp lubricant.

Weaving performance tests on SLIX treated warps prove a material reduction in both warp and filling stops.

The report at the right was submitted by a leading Southern cotton mill.

LOOM STOP ANALYSIS

(Stops per Loom Hour)

	SLIX	Regular
Warp	0.2657	0.4703
Filling	0.5115	0.6069
Mechanical	0.0269	0.0508
Total Stops	0.8041	1.1280

Conclusions: 43.4% reduction in warp stops; 28.8% reduction in total loom stops.

● **Results of these tests, and other technical information regarding the patented application of SLIX, appear in illustrated bulletin, "Developments in Warp Sizing," available upon request.**

SOUTHERN SIZING COMPANY

INCORPORATED 1930

POST OFFICE BOX 167
ATLANTA 1, GEORGIA

•

POST OFFICE BOX 128
EAST POINT, GEORGIA

FRED B. WILKINSON has been promoted from assistant manager of the cotton department of the Erwin Cotton Mills Co., Durham, N. C., to manager. He will be in charge of cotton buying for the Durham plant as well as Erwin and Cooleemee.

JOHN W. POULSON, former vice-president and special assistant to the president, has been named executive vice-president, a newly-created position, of Fruit of the Loom, Inc.

ASHBY L. BAKER has been named to succeed the late MRS. MINNIE F. BAKER as president of Virginia Mills, Inc., near Burlington, N. C. JULIAN T. BAKER was elceted vice-president and remains as treasurer; A. D. WILLIAMS, re-elected secretary, and WALTER M. WILLIAMS succeeds Mrs. Baker as chairman of the board and was re-elected executive vice-president.

The Kendall Co., Boston, Mass., has announced the appointment of H. R. LANE as president succeeding HENRY P. KENDALL, named chairman of the board. L. H. BALLOU was elected vice-chairman of the board, and RICHARD R. HIGGINS was chosen treasurer. Mr. Lane and Mr. Ballou have formerly served as executive vice-president.

JOHN H. FULWEILER has been named director of information for the International Wool Secretariat in North America, New York.

ARTHUR BESSE has been re-elected as president of the National Association of Wool Manufacturers. JAMES F. DEWEY, A. G. Dewey Co., AMOS STEVENS, Ames Worsted Co., and ARTHUR O. WELLMAN, Nichols & Co., have been named vice-presidents.

CHARLES W. DORN, director of research and testing laboratories, J. C. Penney Co., Inc., has been chosen chairman by the New York Section of the American Association of Textile Chemists & Colorists. PAUL J. LUCK, Calco Chemical Division, American Cyanamid Co., was made vice-chairman for the year starting August 1.

WILLIAM M. PITTENDREIGH, former assistant superintendent, has been promoted to superintendent of the Grey Mill of Riegel Textile Corp., at Ware Shoals, S. C.

GERALD B. FLETCHER, formerly associated with Bibb Mfg. Co., has joined the staff of the A. French Textile School of the Georgia School of Technology, Atlanta, Ga., as associate professor in textile engineering.

KEMP ALEXANDER has retired as vice-president and superintendent of Acme Hosiery Mills, Inc., Asheboro, N. C., but will remain an officer and director and serve in an advisory capacity.

GUS FARKAS, formerly with the Hazelton, Pa., plant of Duplan Corp., is now superintendent of their Lehighton, Pa., throwing plant, succeeding F. MACK, who has retired.

HERMAN OLIVER, formerly with the Androscoggin Mills, Lewiston, Me., is now overseer of weaving at Hadley Mills, Holyoke, Mass. ALFRED PAQUETTE, formerly with Lynn Textile Co., Holyoke, has been made second shift weaving foreman at Hadley.

Obituaries

WILLIAM J. BAILEY, 82, president of the Clinton (S. C.) Cotton Mills and the Lydia Cotton Mills, Clinton, and also of the M. S. Bailey and Son banking house, died recently in the Greenville, S. C., general hospital following an illness of several weeks.

WILLIAM EDISON WEST, 69, vice-president of Southern Silk Mills, Kernersville, in Greensboro, N. C., passed away recently.

MICHAEL BETTINGER, 83, former operator and president of Tell City (Ind.) Woolen Mills, died recently.

CHARLES P. CURTIS, 87, former president of the Lowell Bleachery, Boston, Mass., has passed away.

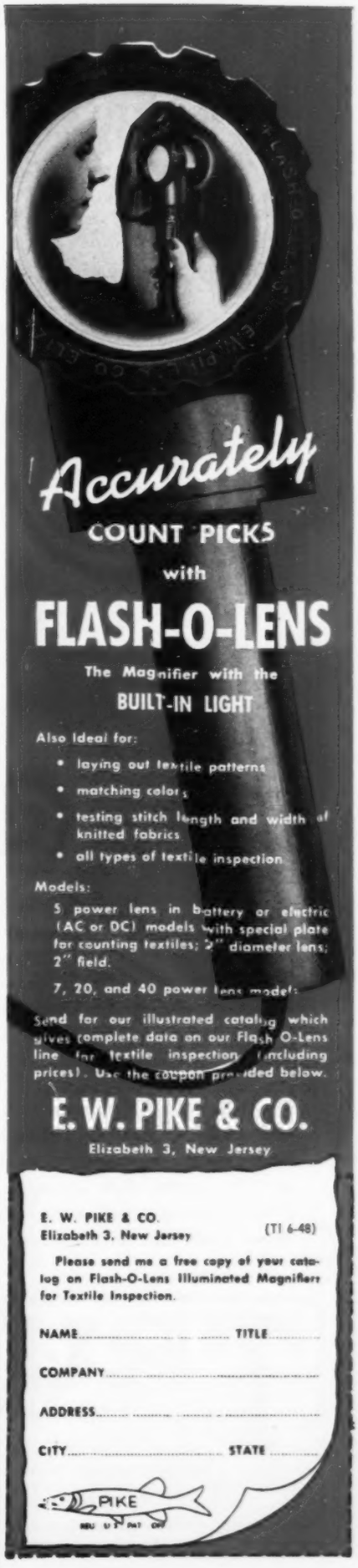
HARRY JOHN HAYNSWORTH, JR., 49, president and treasurer of Ottaray Textiles, Inc., Anderson, S. C., died suddenly last April while on a business trip to New York.

ALBERT A. CATALANE, 70, retired treasurer of Imhoff Berg Silk Dyeing Co., Paterson, N. J., died of a heart attack at his home in West Orange, N. J., recently.

RUSSELL C. YOUNG, 50, southern sales manager of Borne-Scrymser Co., Charlotte, N. C., passed away last April.

SWEN W. NELSON, manager of the Buffalo, N. Y., office of Bailey Meter Co., died suddenly last April.

WILLIAM BEACH OLMSTED, JR., 54, vice-president in charge of sales and a director of American Viscose Corp., New York, died suddenly at his home in New York.


Accurately
COUNT PICKS
with
FLASH-O-LENS
The Magnifier with the
BUILT-IN LIGHT
Also Ideal for:
• laying out textile patterns
• matching colors
• testing stitch length and width of knitted fabrics
• all types of textile inspection
Models:
5 power lens in battery or electric (AC or DC) models with special plate for counting textiles; 2" diameter lens; 2" field.
7, 20, and 40 power lens models
Send for our illustrated catalog which gives complete data on our Flash-O-Lens line for textile inspection (including prices). Use the coupon provided below.
E. W. PIKE & CO.
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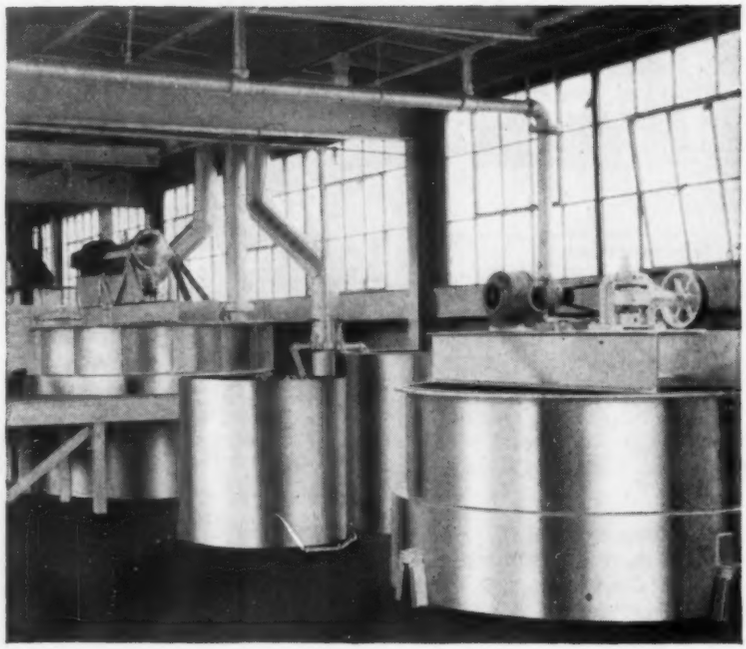

BEING NON-CORROSIVE, *Stainless Steel* tanks and vats will permit colors to run true in successive runs, and allow the use of almost any dye or chemical by remaining unaffected through metallic contamination. Let *Stainless Steel's* strength, lower repair costs and longer life repay the initial costs and reduce the costly maintenance overhead.

***Truitt's engineering service* in the fabrication of carbon and stainless steel is available to the textile, chemical, pulp and other industries without charge. Whether your need be tanks, vats or other equipment, remember . . . *Truitt, one of the South's largest fabricators*, will gladly figure your job, without cost or obligation.**

TRUITT
MANUFACTURING COMPANY
• GREENSBORO, NORTH CAROLINA •

Fabricators of Solid Stainless Steel and Stainless-Clad Tanks • Dyeing Vats • Washing Tanks • Steam Drums • Storage Tanks for Acids and Alkalis • Mechanical Agitators • Separators • Stainless Steel Trucks • And Many Other Stainless Steel Products.

Congress Seeks Better Work-Hours Formula

Spokesmen for the textile industry are showing interest in the Congressional hearings held by committees of Senate and House preparatory to amending the federal Wage-Hour Act of 1936. Washington observers have reported back to industry groups that organized labor has exerted no pressure for adjustment of the present law's provisions concerning wage minimums. The pressure concerns the hours which Congress may eventually define as working-time. Labor leaders want the law to be liberalized in this respect.

Industry recently was advised to try to discourage any tinkering with the existing act. It is not expected anything definite will be attempted by Congress until next year, but personnel executives of some of the larger mills already feel it would be better to annul the present law, and then assist Congress in reaching a really sound formula for the work-week.

Some observers point out that labor leaders thought they had struck a "gold mine" when they invented the claims for portal-to-portal pay, which would have bankrupted hundreds of concerns had not Congress passed a law forbidding such suits. The labor element, since then, has dreamed up some new forms of the same argument. In effect, unless employers take adequate protective measures, some authorities assert, they may be faced with legislation that compels them to pay wages for many more hours per week than those actually worked. This is said to be behind the move to have Congress amend the 1936 law.

Some of the larger employers are said to favor a new statute that will clearly define what constitutes working time, both as to regular hours and overtime. This not only would end the many abuses that now prevail but thwart the further plans of labor leaders to chisel new "fringe" concessions for their adherents by stretching interpretation of "work."

Neolans

ON

QUALITY

WOOL

FABRICS

Tell Their Own Story...

Only Neolans can safely be dyed on carbonized fabrics without neutralizing.....

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VAT DYES OF THE DOW CHEMICAL CO.

USE NEOLANS FOR:

Simple Processing

Easy Shading

Level Dyeing

It takes both

FOR TOP SUSPENSION DRIVE
FOR UNIFORMLY EASY DOFFING

SONOCO
STRAIGHT SIDE
WARP
SPINNING BOBBIN

The SONOCO Bobbin provides more even tension from top to bottom in spinning than any other paper spinning bobbin. SONOCO Warp Spinning Bobbins are made in four standard lengths and outside diameters to meet various traverse lengths, ring diameters and angles of yarn pull.

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PAPER CARRIERS

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

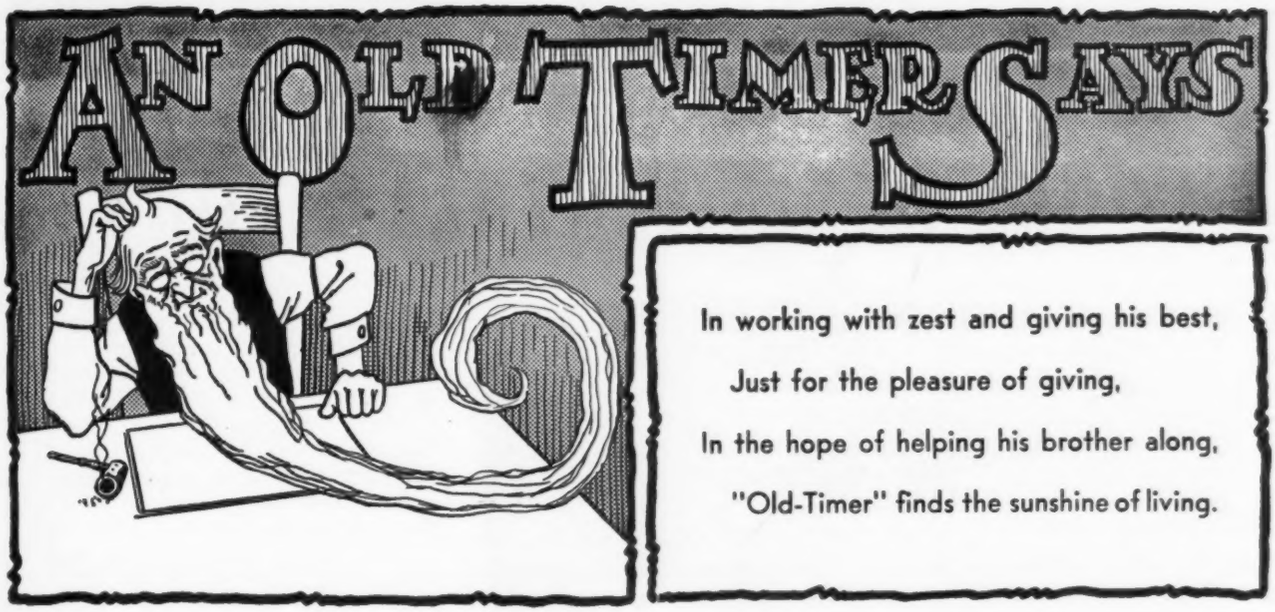
DEPENDABLE SOURCE OF SUPPLY

Positive Contact at the top

The spindle top fits the "cushion grip" with a gentle squeeze to make top-drive contact, which breaks sharp and easy without drag or pull in doffing.

Positive Clearance at the base

A straight side bobbin and a straight side spindle acorn means constant uniform clearance at this point, which is essential in maintaining top suspension drive.


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

Random Thoughts

Scientist to Teach Human Relations

OLD-TIMER has been reading considerably about the atom bomb and other experiments science is making. Naturally, since he was practically "born and raised" in a textile mill, he is always thinking about the interest of operatives, overseers, superintendents, and managers. Therefore, while reading so much about what science is doing with atoms—radar—television—and numerous other things, he wonders if it is going to take some scientist to find a way for us to *understand human beings better.* That is the outstanding problem which confronts operating executives of textile mills today, or men who work labor in any industry.

The science of human relationships; boy, that is a big one. And OLD-TIMER is confident that we are going to make some notable strides forward in solving that problem in the next few years.

Those of us who are trying to advance along these lines must first realize that each human being is an *individual.* No two individuals are exactly alike in their functioning. You see a baseball game and your brother overseer sees the same game, but there is no way in the world for you to know that his reactions—his mental picture of that game—were or are the same as yours. Neither do you know that red paint looks the same to you as it does to other people. You say that color is red because you were taught in your childhood that it is red.

Okeh, we will not go any further on this reasoning for fear of getting into deep water, but we do want you to realize that all human beings are different, and when you are talking to people, giving instructions, trying to convince them of the soundness of some idea you have, you must be smart enough—psychologist enough—to present your ideas in such a way that they will reach a receptive chord in the minds of the man or people with whom you are talking.

We must realize that the fellow who thinks he is always right and you are always wrong is not going to get anywhere in the study of human relations or in working human beings either. But, gentlemen, the man who makes the most progress in understanding *how and why* people differ from one another—now that fellow is going places as a textile mill executive.

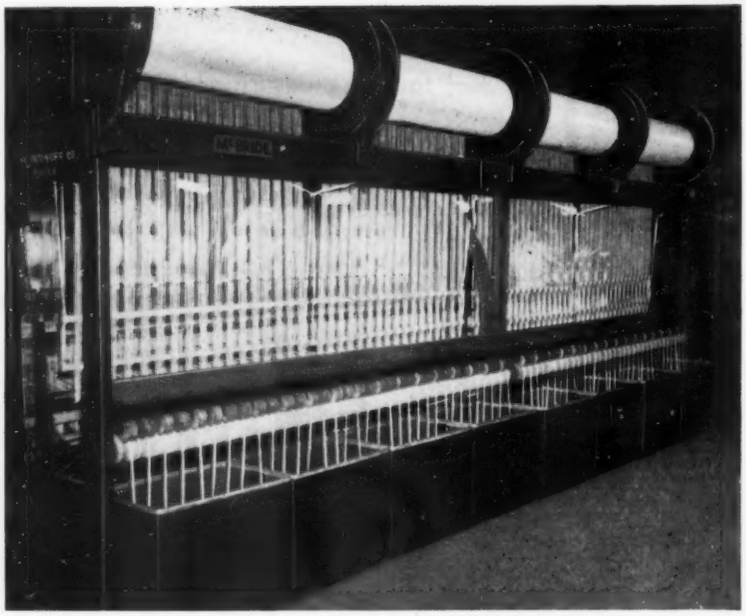
Conservative to Progressive

ALL ALERT textile operating executives must wake up to the fact that human relations has opened up a new problem for management. We can no longer expect labor to retain the status quo. Conditions of the past are abandoned. Textile operating executives who change their thinking from conservative to progressive may find it will pay dividends.

Fooling Other Fellow Fools Yourself

WHEN YOU try to make people think what you are—you "ain't." Some guys who think they are fooling the other fellow, are only fooling themselves. One of the surest ways to improve your personality is to be honest with yourself. Make a list of your weak points—your little mean habits—the many times you speak short to someone when you should not. If you honestly write these things down, fellows, then set out to eliminate them one by one—your personality will improve more than you ever realized it could.

COMPLETE NARROW FABRIC LOOM BEAM INSTALLATIONS



Left

Installation on Insinger Loom

Below

Installation on Fletcher Loom

We design and make Loom Beam installations for any type Narrow Fabric Loom.

Illustrated are typical McBride Loom Beam installations on Narrow Fabric Looms. We supply warp beam brackets and brake bands to fit your requirements; furnish either aluminum or steel warp beams with threaded barrels for adjusting flanges. Friction drums are attached to the flanges or can be separate, whichever you prefer. Journals are an integral part of the beam and not the flange, giving stronger construction and making the flanges interchangeable without disturbing the journals.

Phone us or write your requirements. We will send our engineers to your plant where they will make "on the job" layouts of your contemplated installation, cooperating with your Overseer, and assuring you of a satisfactory installation.

EDWARD J. McBRIDE

MANUFACTURER FOR THE TEXTILE INDUSTRY

Phone: Jefferson 5-8622

Adams Avenue and Leiper Street — Philadelphia, Pennsylvania

NEW EQUIPMENT
AND MATERIALS

Wrinkle Resistant Finish For Cottons

A wrinkle resistant finish which can be successfully applied to all types of cotton with little or no loss in tensile strength was recently announced by American Cyanamid Company's Textile Resin Department, Bound Brook, N. J. It is claimed that seersucker when treated with this finish remains fresh after several wearings.

The new finish, which goes by the name of "Superset," also controls shrinkage to 2 per cent or under, according to the announcement.

Among the fabrics that have been successfully made wrinkle resistant and stabilized to give shrinkage control are: ginghams, piques, jeans, dress goods, chambrays, prints, seersuckers, cords, twills, drills, denims, corduroys, and coverts. The finish is highly durable with effectiveness retained after many severe test washings, it is reported.

Melamine resin forms the basis of the new finish, modified in such a way that it does not affect the strength of the fabric. Tests show a very high anti-crease rating of from 3.0 to 3.6 in both warp and filling directions. In addition, a high degree of resilience is added to the cotton. A wide range of hand can be obtained all the way from the softer women's wear to the firmer men's wear effects. Another characteristic of the finish is that the treated fabrics dry clean satisfactorily without any loss of the effectiveness of the finish.

Processing requires no special equipment other than a curing unit which is standard equipment in most cotton finishing plants.

New Loom Motor

A new totally-enclosed "Tri-Clad" loom motor specially designed to meet the particular requirements of loom operation has been announced by the General Electric Company, Schenectady 5, N. Y.

Although it covers the entire range of 2 hp, 1800 rpm and smaller, all ratings are built in a single frame diameter with only two axial lengths. This permits changing horsepower or speed ratings on a particular loom to suit mill requirements with minimum loom modification.

Loom motor has single frame diameter for all ratings, permitting changing horsepower or speed rating to suit mill requirements with minimum modification.

All ratings are available for foot mounting or for three-arm suspension.

In addition to the advantage of a single frame diameter, the new motor includes conveniently located oil fittings and a new design wool-packed, steel-backed bronze sleeve bearing. An oil-resistant multi-conductor jacketed cable is furnished to withstand the heavy vibration met in loom applications.

Rayon Warp Size

Announcement of a completely new type acetate and viscose warp size has been made by Nopco Chemical Company, Harrison, N. J. Known under the trade name "Unisize," this new polymer is a single, one-product size which acts as binder, softener, penetrant, lubricant, humectant and defoamer. One of the outstanding advantages claimed for the product is that it completely eliminates the need for auxiliary additives to the size.

"Unisize" is a free-flowing, non-sticky, granulation which, in appearance, is very much like light brown sugar. It is extremely soluble and dissolves readily in hot water with simple stirring. No lumps and gelling occur to prevent even distribution of the size on the warp.

According to the manufacturer, "Unisize" creates a strong bond and forms a flexible and non-tacky film; maximum filament protection is provided; static is eliminated during slashing and weaving; a minimum of shedding occurs in the loom.

Feeder Features Automatic Weighing Mechanism

W. D. Dodenhoff Company, Inc., Greenville, S. C., and Maywood, N. J., has announced the acquisition of exclusive national distribution rights to the "Fiber Meter," a new type of feeder which incorporates an automatic weighing mechanism to make possible accurate, uniform blending. This new device is manufactured by the Houdaille-Hershey Corporation, Buffalo, N. Y., automotive and aircraft equipment manufacturers.

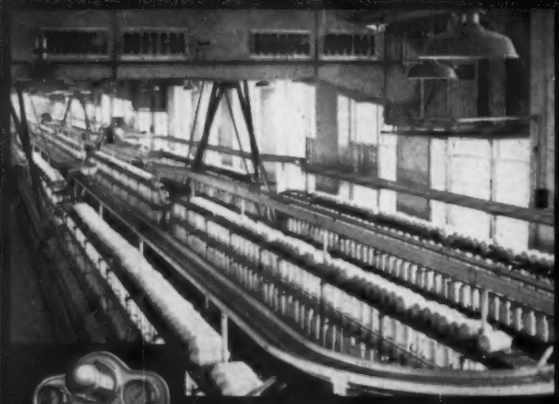
The machine will handle from 200

Testing American Cyanamid Company's new wrinkle resistant finish for cotton fabrics. In the photo at left, a cotton cord suit jacket receives a severe twisting. After this, the jacket was shaken out and put on immediately. It looked fresh and unwrinkled as shown in photo at right.

Certified CLIMATE

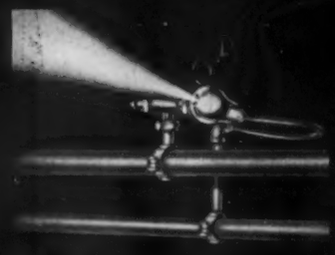
is better climate . . .

often pays for itself in a year



PARKS AUTOMATIC AIRCHANGER

PSYCHROSTAT
Automatic Regulator



TURBOMATIC ATOMIZER

CERTIFIED CLIMATE INSTALLATION
Central Station with Turbomatic Boosters

Parks-Cramer Company

Fitchburg, Mass. — PARKS Certified Climate — Charlotte, N. C.

You get a

SURE FIT

That Kentex Aprons actually do *fit better* is borne out by their steadily increasing sales over the past nine years, and unsolicited praise from spinning room overseers.

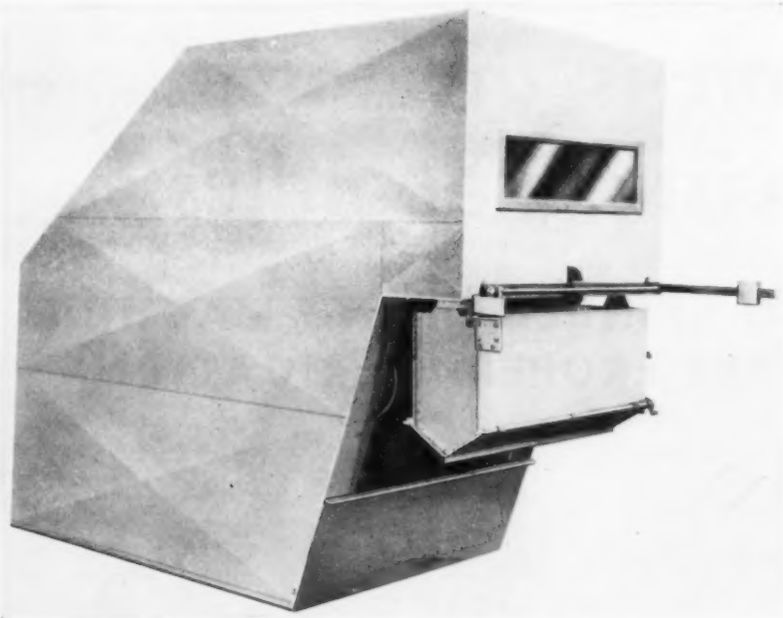
But far stronger than this is the proof you will see for yourself, on your own frames, that KENTEX is the apron you can't afford to pass by for greater yarn uniformity and increased yarn production. Send us your size. We'll send you some free test KENTEX APRONS promptly.

Kentex Aprons made to any specifications, on short notice. Write for free samples and prices.

TEXTILE APRON COMPANY

EAST POINT, GEORGIA

J. B. KENNINGTON, OWNER



The "Fiber Meter" incorporates an automatic weighing mechanism to provide accurate, uniform blending of various fibers.

to 500 pounds of fiber per hour, delivering it to the blender in any desired unit of from 8 to 32 ounces. A battery of them—one for each of the fibers to be fed—will exactly proportion the fibers and deliver them to the blender simultaneously. Since the blender is fed in precisely measured small quantities, the homogeneity of the finished product is assured, according to the manufacturer.

The weighing mechanism is said to be virtually free from friction. This friction-free characteristic would obviously result in excessive vibration of the weighing mechanism were it not for a viscous damper which takes command and almost immediately brakes the movement and returns the balance to a static position.

The body is of heavy gauge steel, welded construction. The entire electrical system, driving mechanism and functioning parts such as spiked apron, comb and doffer are fully enclosed, reducing fire hazard and promoting cleanliness and safety.

The interior is designed for easy cleaning and is lighted. Operation is completely visible through Plexiglas windows. The comb is dynamically balanced for smoothness of operation.

Embossed Corrugated Aluminum

A new type of corrugated aluminum sheet for roofing, siding and similar structural uses has been developed by the Reynolds Metals Company, Louisville, Ky. In addition to the standard lengthwise corrugation, this new development will feature an embossed finish. This greatly increases the rigidity of the sheet, minimizes glare and provides a pleasing uniform appearance, according to the manufacturer.

Moisture Register

Announcement of a new model pressurized moisture register, designed to accurately test moisture content of loose and compressible materials used in the textile industry, has been made by Moisture Register Co., 133 N. Garfield Ave., Alhambra, California. This instrument is now being used on scoured wool, combed wool (tops), wool yarns (skeins), wool blankets, and bulk cotton, according to the manufacturer.

Identified as Moisture Register, Model PD-1, it is the newest in a series of electronic moisture meters now available. Through deep penetration by high frequency field it tends to average moisture content of material to a depth of three inches.

Constantly duplicable readings are obtained by incorporation of coil spring tension on the electrode of the instrument. At predetermined pressure point, microswitch is activated. Signal is accomplished by lighting the meter dial. Further pressure opens the illuminating circuit. Readings must be taken when meter dial is lighted for accurate instrument results.

Calibrations are available for wool mentioned. Numerical dial scale enables operators to establish their own calibrations for other materials using standard oven tests as a basis of comparison. Average range of moisture covered is zero to 15%, wet weight basis.

Wool Shrinkage Control Developed by Scholler Bros.

Scholler Bros., Inc., Collins & Westmoreland Sts., Philadelphia 34, Pa., has announced the development of a new chemical process for wool shrinkage control known as "Schollerized." It is claimed that garments that are knitted or woven from wool treated by this process require no particular care in washing. It is ex-

Moisture Register, Model PD-1, tests moisture content of textile fibers.

Lubrication is the Lifeblood of Twisting Spindles

and

The WICACO SPINDLE OILING MACHINE GUARANTEES PROPER LUBRICATION!

IT flushes out the old oil and replaces it with fresh oil in one simple operation. It saves time, labor and power, and guarantees proper oil level at all times.

This machine is used successfully in many mills producing wool, cotton, silk and rayon.

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Manufacturers of Precision Machinery and Machine Parts

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78 Fountain Street, Providence, R. I.

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RODA — High grade gas, by-product and steam coal from Wise County, Va., on the Interstate Railroad.

DENDRON — High grade gas, by-product, steam and domestic coal from Wise County, Va., on the Inter state Railroad.

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PREMIX STOKER — A laboratory controlled product blended to meet exacting stoker requirements. From Wise County, Va., on the Interstate Railroad.

COKE — Roda and Stonega from Wise County, Va., and Connellsville Coke from Pennsylvania.

CRITERION COAL — High grade gas, by-product, steam and domestic coal—Pittsburgh seam from Irwin Basin, Westmoreland County, Pennsylvania, on the Penna. Railroad.

CROZER — Genuine Third Vein Pocahontas from McDowell County, W. Va., on the Norfolk & Western Railroad.

LYNCO — High fusion coking coal for by-product, industrial stoker and pulverizer use from Wyoming Co., W. Va., on the Vgn. Ry.

Old Kentucky — Hazard No. 4 and No. 7 steam and domestic coal from Wiscoal, Knott County, Kentucky, on the L. & N. Railroad.

CHARMCO — Unexcelled Steaming Coal from the Fire Creek Seam in Greenbrier County, W. Va., originating on the N.F.&G. R.R.

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Our personnel with the experience gained through long and varied marketing activity assures effective servicing of any fuel requirement.

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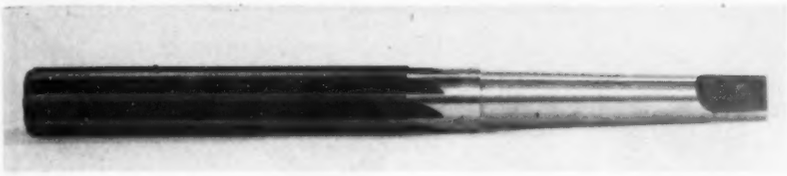


This tapered shank production reamer was developed by Dennison Machine Tool Co., Hickory, N. C. This concern also manufactures a variety of cutting tools from high speed steel.

plained, however, that because of the nature of the fabric, blocking to shape is advisable to maintain its like-new appearance.

According to the announcement, the process permanently "dekinks" the tiny prong-like wool fibers which, when washed, would ordinarily become interlocked, causing subsequent matting or felting.

"Schollerized" wool is unaffected by rubbing or tubbing, it is claimed. It is explained that the same properties that control the shrinkage also make it difficult for dirt to successfully cling to wool. The elimination of felted dirt-traps in the wool fiber strands permits ordinary soap and water to do a better cleaning job. Fast colors stay bright and the whole garment retains its new-like appearance for the life of the fabric, according to the manufacturer.

Rayon Cake Handling Equipment

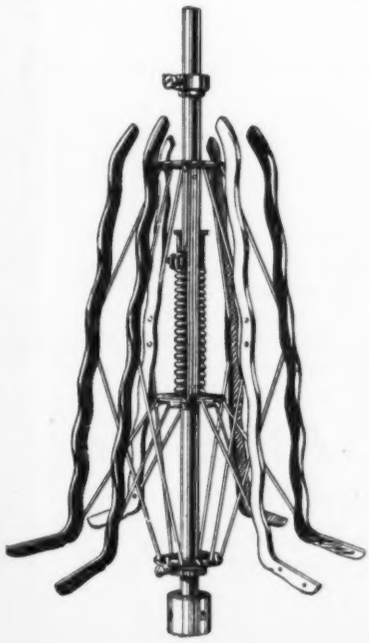
The Bruegger Winding Co., 318 East Chelten Ave., Philadelphia, Pa., has marketed a convenient portable carrier for use in conjunction with the new "Rayonex" and "Servofil" rayon cake handling equipment which was recently announced by the company.

The "Rayonex" is a contractable and self-expanding metal reel for holding rayon cakes while they are being wound off. The cake reel centers the cake automatically without regard to direction of twist or correct positioning. It supports the cake by continuous gentle presure, and no inserts are necessary.

The special mounting table called "Servofil" may be set up away from the winders. These may be operated by mounting specialists. The portable carriers are used to bring "Rayonex" reels to the mounting table.

The reel is placed on a guide pin in the center of the table, and by pressing a foot-pedal the reel is collapsed to receive the rayon cake. The cover cloth on the cake is then unfolded, and the mounted reel is returned to the carrier which is then taken to the winders. This procedure allows the winder operative to change the reels and mount the "pie-plate" stationary cap which is adjustable to any desired height by a set screw. The pedal mechanism for collapsing the reels can be mounted at individual spindles on winder or cores.

The "Rayonex" reel for rayon cakes.



The "Servofil" mounting table.

Portable Air Compressors

Two portable air compressors have been announced by American Brake Shoe Company's Kellogg Division, 230 Park Ave., New York 17, N. Y. Both models produce 100% oil-free air and are readily adjustable for different pressures.

Model 17-C delivers 4.4 cfm free air at 40 pounds pressure. Model 8-C delivers 2.2 cfm at 25 pounds pressure.

Both compressors are particularly adaptable for low pressure, high volume work, according to the manufacturer.

Solenoid Valve

The Airmatic Valve, Inc., of Cleveland, Ohio has introduced a new model DS-2 directly operated solenoid valve. The valve needs no pilot or other medium for operation, and the effective orifice area is equal to that of the pipe line.

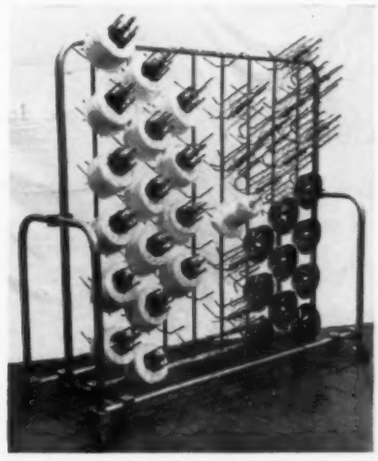
The valve is adaptable and can operate on direct or indirect current voltage and with various fluids such as oil, water, steam, air or freon.

Photo-Electric Color Eye

A scientific color brain, reported to be accurate to within one-half of one per cent, has been developed in the research laboratories of the Pittsburgh Plate Glass Company.

Known as the PPG-IDL Color Eye, the new instrument photo-electrically records the response, sensitivity, and discrimination characteristics of the human eye. With greater accuracy

Portable carrier used to transport cake reels to the mounting table.



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MINOTINTS

Oil-base fugitive tints for all synthetic and natural fibers.

Identification — Lubrication — Conditioning.

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TINTINOLS
LYNOL

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BRETON OILS FOR WOOL

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has had the

Greatest Increase in LABOR COSTS

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It is now *imperative* that
both *labor* and *equipment* be fully *utilized*

Doing this is our job.
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PAUL O. MERRILL, Vice President-Chief Engineer

than the eye, it measures color differences and divides by the total reflected light to give comparisons in terms of percentage reflectance difference, regardless of illumination level or color density, according to the announcement.

The new apparatus will be useful in the textile field for accurate color matching.

Color differences are read directly on a meter having two ranges. Approximate luminosity is read directly on a logarithmic scale from 0.1% to 100%. Accurate luminosity or tristimulus values may be obtained by a direct reading micrometer-controlled optical slit comparing the sample to a white standard.

The instrument will be marketed by the Instrument Development Laboratories, Inc., Williston Park, Long Island, New York.

Handy Time Switch

A handy time switch, Type T-47, rated 35 amperes at 115 and 230 volts and timed and operated by a synchronous, self-starting, permanently lubricated motor, has been announced by General Electric Company, Schenectady 5, N. Y.

Designed for "on" and "off" timing of a single circuit, the new switch will perform one "on" and one "off" operation during any 24-hour period and will continue to do so daily without adjustment.

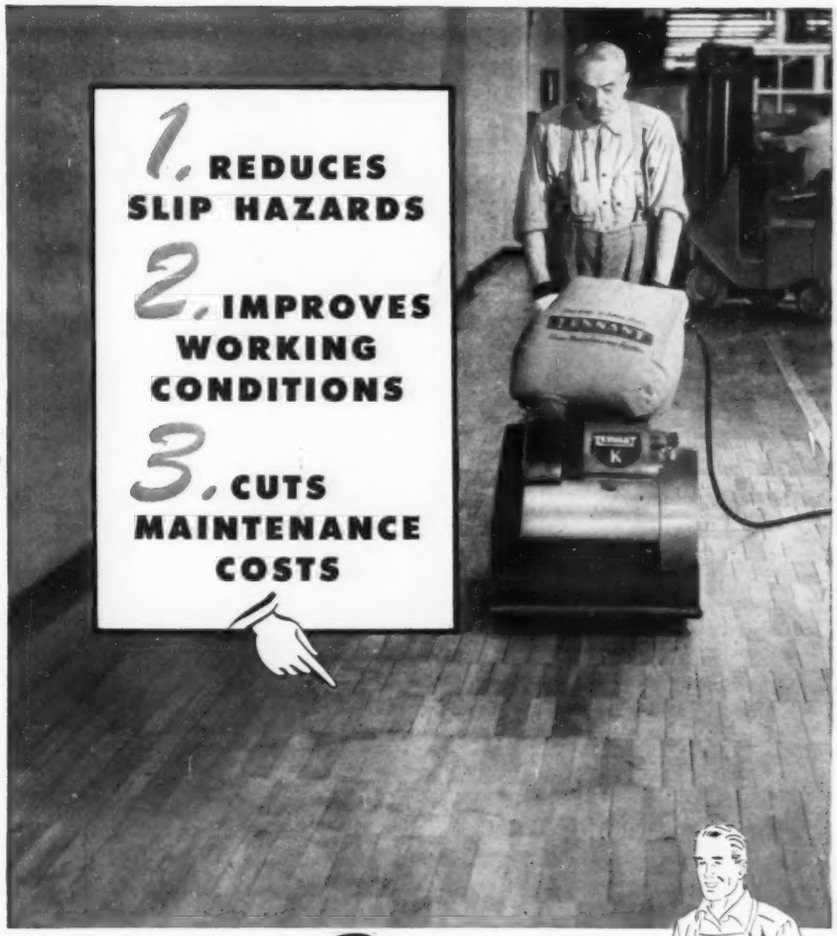
The switch is designed to save electricity by turning off lights and appliances when they are not needed, to save time by releasing motor and machine operators for other work, and to prevent waste and spoilage by automatic control of heating, lighting, fans, and blowers, thus reducing losses due to negligence.

Leakproof Packless Valve

A new type of packless valve has been announced by Fulton Sylphon Division of Robertshaw-Fulton Controls Co., Knoxville, Tenn.

This new valve, termed the "No. 3000 series," has a seamless metal bellows which forms a leakless connection between the valve disc and the valve body. This construction enables repeated opening and closing of the valve and no maintenance is required to keep the stem absolutely tight against leakage, even under extreme conditions of pressure or vacuum, it is claimed.

The valves are available equipped with stainless steel bellows and stainless steel bodies which adapt them for economical service in applications which would otherwise be impractical due to corrosive and other



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TENNANT FLOOR MAINTENANCE SYSTEM

Watch how quickly workers respond in ANY mill to safe... bright... *dry-cleaned* floors—and you'll see why the TENNANT System is so popular today. It makes your wood floors safer, brighter and *better* to work on... helps boost morale and cuts down on accidents. Yet it costs you *less!*

RESTORES "life" to your floors. Gets rid of dark, rough, oil-soaked top fibers; leaves floor bright, smooth.

HARDENS surface to resist wear. Special penetrating seal fills, binds, hardens wood fibers. Prolongs floor life, resists soilage and wear.

DRY CLEANS, eliminates scrubbing. A fast, one-man job... picks up dirt at same time. Keeps floor DRY, bright, non-slippery. No water or chemicals.

Write Today! Ask for a Tennant representative to inspect your floors. He'll give you FACTS about modern, mechanized floor maintenance . . . and what it offers your mill.

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The way to finer floors
TENNANT
Floor Maintenance System

ESTABLISHED 1870

PAINTS OVER OIL; DRIES IN *30 minutes!*

Tennant 201 Oil Cover Paint masks dark oily areas like magic . . . you just paint it on. Flows easily; dries fast. Ideal for use under looms, for painting machines, etc. Special lacquer base; easy to keep clean. All standard colors.

LUREX*

the NEW MIRACLE METALLIC YARN

- **ABSOLUTELY NON-TARNISHABLE**—retains brilliance forever when instructions are properly followed.
- **ODORLESS**—no unpleasant metal or tarnish odors can occur.
- **EASY TO LAUNDER AND DRYCLEAN**—by the same methods used for rayon.
- **SOFT AND PLIABLE**—in finished fabric Lurex has good hand—is not harsh or abrasive.
- **LIGHT IN WEIGHT**—provides metal luxury look without customary weight.

Fabrics containing these glamorous gold, silver and copper yarns can be used and sold with confidence because Lurex overcomes all of the limitations that have restricted the use of metal in present day *wide loom* fabrics.

Designers can now add to their color palettes the ageless rich tones of metal to create appealing and practical fabrics.

Lurex is available to qualified mills by itself and in a wide variety of core yarns and twists. It can be woven or knitted with all natural and synthetic fibres.

INSTRUCTION TAGS

To assure customers that your fabrics contain non-tarnishable and launderable Lurex metallic yarn, suitable identification and instruction tags are available to you for use by your end product customers.

*Reg. U. S. Pat. Off.

LUREX

The Miracle Metallic Yarn That Never Tarnishes

For further information write
The Dobeckmun Company, Yarn Division, Cleveland 1, Ohio.
New York Office and Show Room 250 West 57th Street.

Get Up To Date On Latest Cloth Expanding Practice

Send for this NEW Bulletin

Mount Hope "FREE-WHEELING" EXPANDER
FOR PRODUCING MAXIMUM WIDTH AND ELIMINATING WRINKLES ON TEXTILE FABRICS AND PLASTIC FILMS, AND FOR EVENLY DISTRIBUTING TIRE CORD WARPS
WRONG
WRONG
RIGHT
HOW TO USE MOUNT HOPE FREE-WHEELING EXPANDER
MT. HOPE MACHINERY CO.

Here are some of the subjects covered in this new 6-page bulletin: —

Mount Hope Sealed End Expander
Mount Hope Batcher Expander
(Counterweight and Spring Type)
Mount Hope Adjustable Expander
Mount Hope Expander for Tire Cord Fabrics
Single, Double and Triple Brackets
Bar Mounted Brackets
Flange Brackets

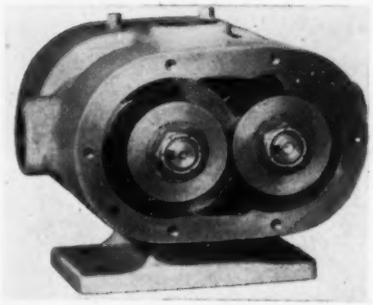
All Mount Hope Expanders are "free-wheeling," i.e. with ball bearing mounted Neoprene sleeves. Minimum tension on the warp, which is pulled over the sleeve, greatly increases the spreading effect of the expander and increases the life of the Neoprene surface.

Other advantages are explained in Bulletin E. C. Send for your copy today.

MOUNT HOPE MACHINERY CO.

42 Adams St., Taunton, Mass., U. S. A.

Mount Hope Free-Wheeling EXPANDER



Cut-away view of a new pump particularly adaptable for pumping size to slasher size boxes. The slow speed, crescent type rotors have no metal-to-metal contact within the pumping chambers. Spring loaded seals reduce shaft friction and leakage. The unit is manufactured by Waterous Co., Thomson Pump Division, St. Paul 1, Minn.

metal-wearing actions. The bodies of the new valves are also available in bronze, cast iron, cast steel or monel metal ,thus adapting them to almost any valving need.

Industrial pH Meter

The Macbeth Corporation, 227 West 17th Street, New York 11, N. Y., has announced a new industrial pH meter.

The meter includes two stages of voltage regulation, permitting voltage variations from 80-135 volts, to eliminate difficulties arising out of widely varying factory voltages.

Combustion Control for Oil Burners

A new photoelectric combustion control system for commercial oil burners has been announced by the Control Division of the General Electric Company, Schenectady, N. Y. It is composed of a master control unit, a photo-tube unit, and an electrode unit.

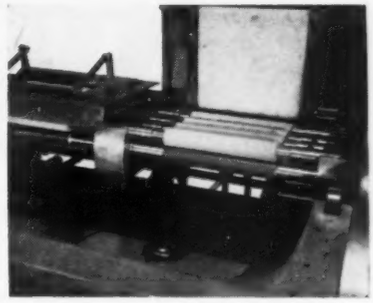
The system is designed to shut off the flow of fuel to an oil burner immediately if the oil fails to ignite or if the flame is extinguished after successfully igniting. On gas-electric ignition systems it prevents fuel from flowing if the gas pilot does not ignite.

Electric Propelled Hand Trucks

Automatic Transportation Company, 149 West 87th Street, Chicago 20, Ill., has announced new 1948 model hand trucks for the textile industry.

The Automatic Dual Lift features a new hydraulic lift pump develop-

AMW'S BALL BEARING TOP ROLLS GIVE YOUR DRAWING FRAMES TOP EFFICIENCY



Note These Advantages:

1. IMPROVEMENT IN EVENNESS. 4-roll drawing frames equipped with AMW's Ball Bearing Top Rolls have obtained a variation in evenness as low as 16% . . . under 20% can be obtained in most cases.

2. IMPROVEMENT IN BREAKING STRENGTH: This will range from 3% to as much as 12%, due to elimination of the greater part of the friction load on the top rolls . . . less damage done to the sliver in the drafting process.

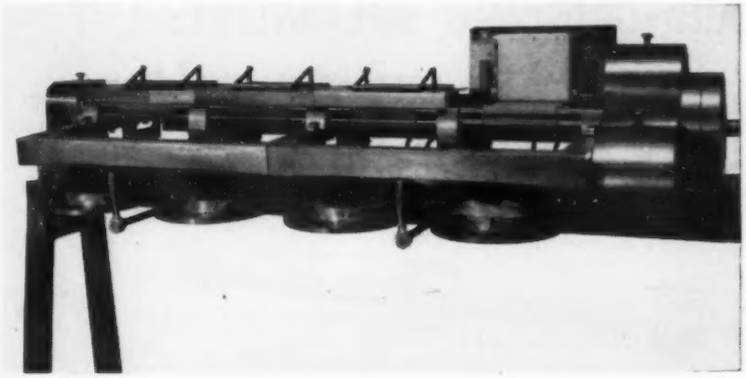
3. BALL BEARING RATINGS: Load rating of each bearing is 220 pounds at average drawing roll speed (250 r.p.m.). With four bearings on each top roll (2 on each end) and the heaviest weight used never exceeds 24 pounds per end, you can appreciate high safety factor.

4. LONGER LIFE OF COTS: Regardless of the type of cot used you get longer life because of less resistance to rotation and absence of oil from the bearings.

REBUILDERS OF DRAWING FRAMES

We are now making a specialty of converting old 4-roll frames into 5-roll frames, and are building new 4 and 5-roll drawing of 4 and 6 delivery type, with evenness test in single process as low as 14%.

We also make grooved calender rolls for cards which put up to 150% more sliver in the can and improve the quality at the same time.



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★ PENETRATES THOROUGHLY

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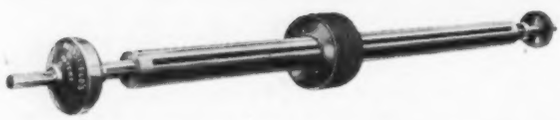
THE KEEVER STARCH COMPANY **Columbus 15, Ohio**

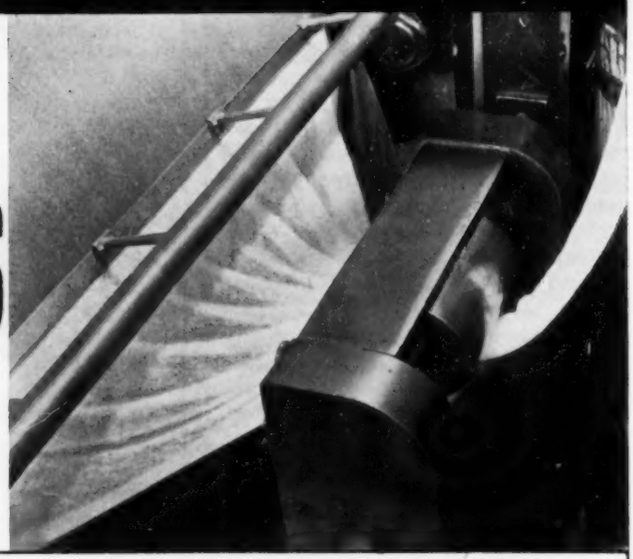
10.000.000 CARDING POINTS NEED PERFECT GRINDING ROLLS

CONSULT THE CARD-GRINDING SPECIALISTS

DRONSFIELD'S



TRAVERSE WHEEL GRINDER Nº 120



SOLE AGENTS FOR DRONSFIELD'S MACHINERY :-

JOHN HETHERINGTON & SONS INC.
BOSTON · MASS.

SOLID GRINDING ROLLER Nº 112

DRONSFIELD BROTHERS LTD · OLDHAM · ENGLAND

This apparatus, known as the "Anhydrator," provides a new method of drying many different materials, including textiles, without the use of heat. A cyclone of clean filtered air at extremely low humidity is produced and recirculated, according to Oscar Fisher Co., Inc., 109 Worth St. New York 13, N. Y., manufacturers of the device.

ment which combines a low pressure (high speed) cylinder for raising the platform or forks into contact with skid or pallet and a high pressure (low speed) cylinder for raising the load.

The Atco Electric Lift, a pump and motor that can operate on the standard 11-plate battery of a motorized hand truck, will be featured on all all-electric models.

Both the foot-lift and electric-lift Transporters are made in four standard units, the 4000- and 6000-pound load capacity platform models and the 3000- and 4000-pound capacity pallet models, and in a variety of special models.

Adjustable Supply and Return Air Diffuser

An adjustable air diffuser intended for use where air is to be both discharged from and returned or exhausted through a common unit has been developed by W. B. Connor Engineering Corp., 114 East 32nd St., New York 16, N. Y. The supply air is discharged from between the outer and intermediate cones and the return or exhaust air is drawn through the center section of the diffuser. It is so designed that the supply air is ejected radically away from the return air opening which eliminates any short-circuiting of supply air into the return air opening.

Supply air volume is controlled by

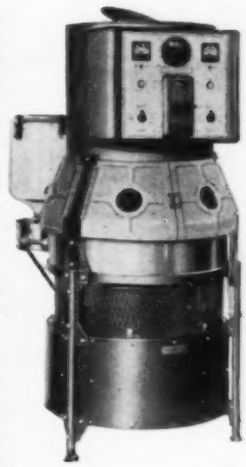
Photo courtesy Morton Bregman of The Chicago Fashion Industries

Fine fabrics

. . . are Atlas-Ometer tested . . . .

Fading, dimensional changes and loss in tensile strength due to sunlight, washing, dry cleaning and outdoor exposure are predetermined in the laboratory enabling the textile chemist and colorist to guarantee the permanence of the fine textured beautiful fabrics available today.

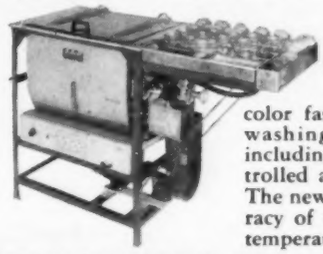
ATLAS FADE-OMETER



The recognized standard testing machine for determining the fastness to light of dyestuffs and dyed fabrics. Specimens are rotated around the Atlas Enclosed Violet Carbon Arc — the closest approach to natural sunlight — in masked holders. Temperatures automatically controlled to within ±3° F. and humidity regulated by a constant water level according to requirements of the test. Operation is completely automatic without attention from operator; can be left in continuous operation overnight.

NEW SPECIMEN SUSPENSION—Atlas has recently introduced a method of specimen suspension in the Fade-Ometer designed to increase the accuracy of tests. New type specimen holders are engaged by a new lower ring, in addition to the standard upper ring. This assures vertical alignment of all holders and equal distribution of heat and light energy for all samples.

This new holder for specimens can be used with all Model FDA and FDA-R Fade-Ometers now in operation. Holders are available in baked-on gray enamel or, at slight additional cost, dull finish stainless steel.



ATLAS LAUNDER-OMETER

The standard laboratory washing machine of A.A.T.C.C. for testing color fastness, staining, shrinking, resistance to washing and mechanical action. All factors including washing action can be carefully controlled and reproduced identically at any time. The new preheating loading table increases accuracy of tests by starting all samples at uniform temperature.

RESEARCH MODELS—Two new models for research testing have recently been added to the Atlas line of standard Launder-Ometers. These units are designed to accommodate larger samples, allowing more accurate shrinkage testing, and are available with capacities ranging from 20 pint to 6 half-gallon jars. Both machines may be supplied with vari-speed drive units for operation between 10 and 50 r. p. m.

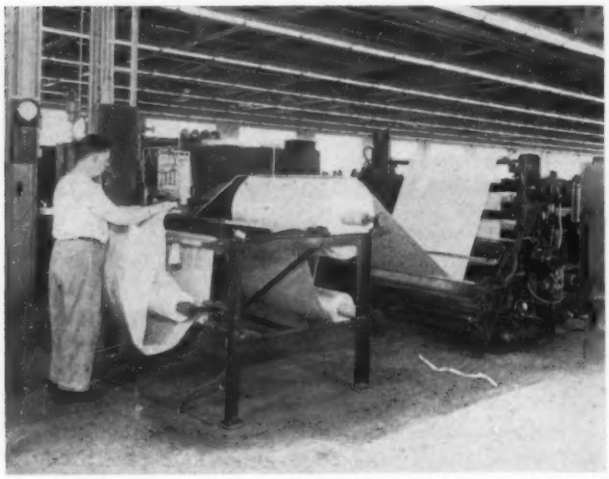
Manufacturers of the Twin Arc and the X1A WEATHER-OMETERS

ATLAS ELECTRIC DEVICES CO.

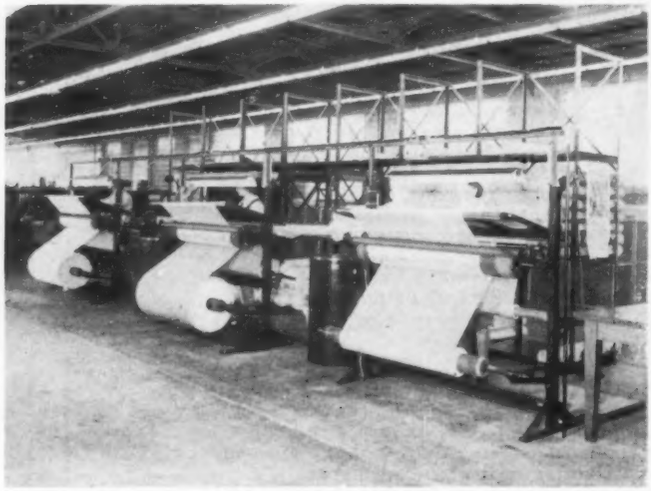
361 WEST SUPERIOR STREET, CHICAGO 10, ILL.

Originators and manufacturers of accelerated testing devices for over a quarter of a century.

MODERN CLOTHROOMS ARE HERMAS EQUIPPED



Three Hermas measuring and examining machines handle production of 210 X D automatic looms.



Hermas automatic shear and rolling and sewing machine. Photos courtesy of McGinley Mills.

Hermas shears rolling and sewing machines, and measuring-examining machines like those shown in these pictures constitute the most modern and efficient equipment you can own and use.

Reduce costs and raise quality and quantity of production with HERMAS CLOTHROOM MACHINES—sold singly or in complete installations.

●

Let us help you plan your future clothroom layout now.

HERMAS MACHINE COMPANY

America's Only Specialists in Clothroom Equipment

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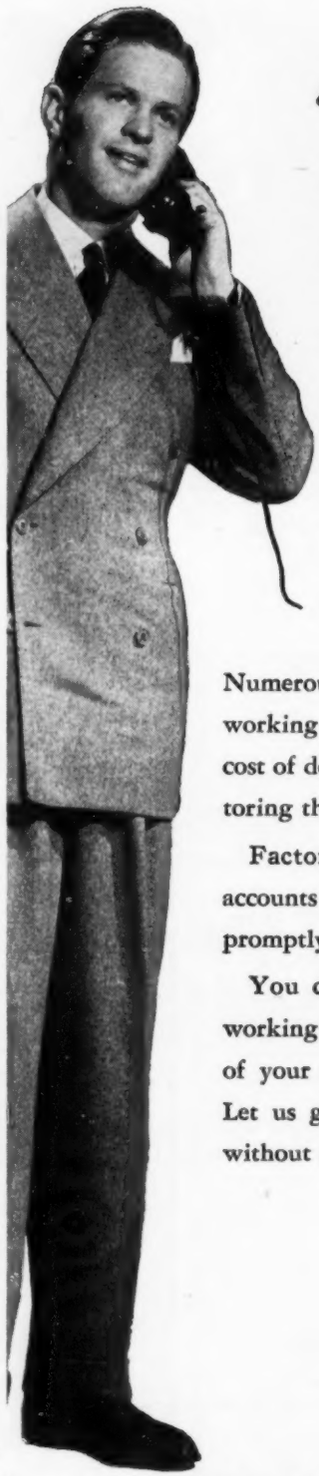

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Numerous firms, needing additional working capital to combat today's high cost of doing business, have found factoring the best means of getting it.

Factoring frees capital tied up in accounts receivable and provides cash promptly when merchandise is shipped.

You can increase your available working capital and hold full control of your business by using factoring. Let us give you further information without obligation.

OUR BUSINESS IS HELPING YOURS

FACTORING DIVISION

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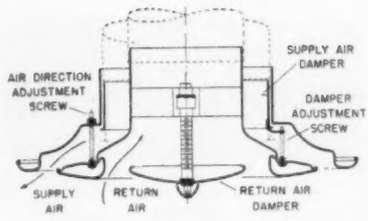
NEXT DOOR TO EVERY MILL IN THE SOUTH



The adjustable air diffuser.

a cylindrical, sliding, sleeve-type damper fitted snugly to the inside of the diffuser neck and connected by means of peripheral operating screws to the intermediate cone. Turning these screws raises or lowers the damper. This alters the air outlet aperture between the lower rim of the damper and the flange of the intermediate cone of the unit uniformly around the periphery so as to vary the air delivery through the diffuser.

Varying the air direction is accomplished by raising or lowering the inner assembly. To reduce the downward discharge angle or produce a more horizontal direction of air discharge the inner assembly is lowered. To increase the downward discharge angle or produce a more vertical direction of air discharge, the inner assembly is raised. Movement of the inner assembly is controlled by the air direction adjustment screws.

The center cone constitutes the return air damper. It is rotated on a central operating screw, clockwise to close, counterclockwise to open the return air aperture.

Cloth Inspection Fixture

A new fluorescent Type T-1 inspection fixture has been announced by Salem Mfg. Co., Salem, Mass.

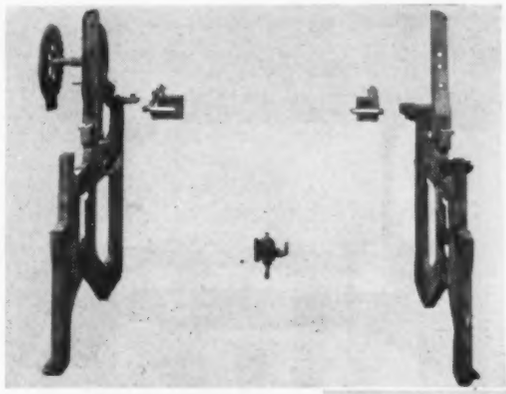
Designed for use with a cloth inspection perch, or for other silhouette inspection methods, the fixture consists of a strong, durable cabinet into which are set eight 40-watt fluorescent lamps behind a diffusing glass panel. These lamps give ample and evenly distributed light of daylight quality, according to the manufacturer.

As in ordinary perch inspection, the inspector looks through the cloth at eye level while maintaining a normal posture and hence can easily spot imperfections.

Two or more of the lamps may be turned off for the inspection of sheer fabrics, thus reducing the brightness of the panel without causing a noticeable change in its diffusion. Lamps, ballasts, starters and other operating equipment are mounted on the removable back panel of the fixture.

5 reasons why HUNT REBUILT LOOMS are 1948's best buy!

1. Hunt Spreaders add needed bearings, strengthen and stabilize the entire loom.
2. New, smoother driving power from Hunt Motor Drive, or Hunt Belt-Driven Flywheel Drive.
3. Every part that counts in production is new—giving new-loom performance.
4. Higher speeds, more picks-per-minute, and greater cloth output than expected of new looms.
5. Delivery in weeks—rather than years—gives efficient production now, when you need it!

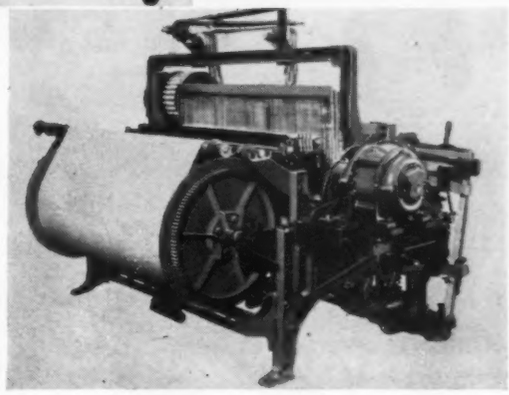


BEFORE

Starting with the loomsides, Hunt engineers plan—and skilled Hunt loom machinists build—the loom that will do the particular job the customer wants. Rigid supervision assures finished looms of the highest quality and performance.

AFTER

Completely rebuilt! From 90% to 95% of the parts in the loom are new. Patented Hunt Spreader is now a part of the loom. Equipped also with Cut-Tooth Worm Take-Up, Roper No. 4 Let-Off, Feelers, Thread Cutters and 4 to 6 bank electric Warp Stop Motion. Hunt Motor or Belt Drive; and Dobby Head or Cam Equipped as specified by customer.

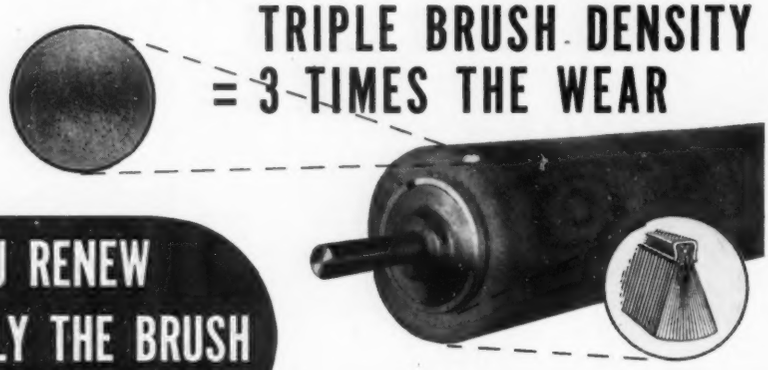


Do you need modern rayon filament looms in any width up to 60 inches? Do you plan a loom expansion or weave room modernization program? If so, write, wire, or phone today. Ask for your copy of our illustrated brochure, "HUNT CERTIFIED REBUILT LOOMS."

HUNT MACHINE WORKS
INCORPORATED
GREENVILLE, SOUTH CAROLINA

HAVE YOU INQUIRED ABOUT THESE SAVINGS?

TRIPLE BRUSH DENSITY
= 3 TIMES THE WEAR



YOU RENEW
ONLY THE BRUSH
NOT THE CORE

FULLERGRIPT METAL BACK CONSTRUCTION makes possible (1) independent brush unit — renewable — you *save* the core (2) brush material in a solid mass — three times the number of brush filaments take three times as long to wear (3) brush material permanently loop-anchored in metal — no tufts to pull out.

FULLERGRIPT BRUSHES

- Raising
- Laying
- Worsted Card
- Cotton Card
- Shearing
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- Singeing
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- Brushing
- Blanket Washing
- Pressing

CORES Choice of tubular and solid cores for spiraled brushes, flange mountings straight and semi-spiraled brush strips, or Fullergript brushes can be mounted on your old cores. Fuller builds metal cores of steel, aluminum or stainless steel for use in acids. Brushes can be mounted and held to an exact O. D. tolerance.

BRUSH MATERIAL Option of bristle, nylon, hair, fiber or combinations of these — whichever does your job best.

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WHAT THE TEXTILE MILLS ARE DOING

Decorative Fabrics Co., Pawtucket, R. I., textile printing, has acquired a one-story building in Pawtucket and will improve and equip for expansion. A reported consideration of $110,000 was estimated.

Woodside Cotton Mills Co., Greenville, S. C., print cloths, twills, etc., is arranging for a change of name to Woodside Mills, and at the same time for an increase in capital to $4,000,000 for general expansion.

Deering, Milliken & Co. has plans under way for a one-story addition to the cotton yarn mill in Johnston, S. C., reported to cost about $250,000, with equipment. The company also plans a similar extension to the mill at McCormick, S. C., costing practically the same.

Barbet Mills, Lexington, N. C. have obtained bids on a new boiler for their plant, and a contract has been awarded for an extension to the picker building which will include two stories and a basement. Barbet has also contracted for a reinforced concrete dye house, the present dye house having been converted for packaged yarn dyeing. Lockwood Greene Engineers, Inc., New York, are handling these improvements for the mill.

Julius Forstmann & Co., Inc., is the new corporate name of the Julius Forstmann Corp., New York. The change in name does not involve any change either in the functions or services of the company.

George Mager and Jack Stiepel, both associated formerly with the Phillipsburg (N. J.) Textile Print works, Inc., have announced the opening of a modern screen printing plant in Bound Brook, N. J., which will be known as Middlesex Fabric Print Works, Inc.

Botany Mills, Inc., Passaic, N. J., has extended its technical training course for selected, younger employees as a futher development of its program of education. The program includes a labor-management relations school.

A new Lonsdale Company has been organized by Textron Incorporated

SARAN

BY NATIONAL

SARAN highlights Detroit's smart fashion center . . .

In the beautiful new Woodward Shops of The J. L. Hudson Company, there's perfect blending of beauty and practicality in upholstery fabrics woven of saran—the *basically different* textile material. Stunning and sturdy, that's saran! And monofilaments of saran as fine as .005" are easy to work, easy to weave—they're clean, lint-free, ready for warping, quilling and for a host of diversified applications. Versatile saran leads the way to new textile sales opportunities.

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Saran by National

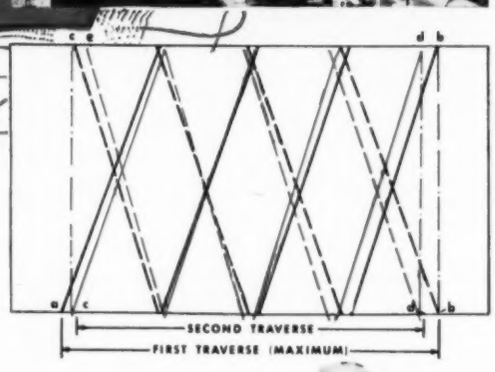
ODENTON, MARYLAND

New York: Empire State Building; Los Angeles: Bankers Building

SARAN

SARAN BY NATIONAL *denotes monofilament, rattan and tape manufactured by The National Plastic Products Company from Dow's saran, and supplied to mills, weavers and other fabricators.*

...to reduce lagging time 1 to 5 hours



Moisture evaporates faster from the Universal Nylon Sizing Tube because the exclusive construction of yarn mass allows circulation of air.

A patented yarn traversing mechanism on the No. 250 Universal Sizing Machine lays the yarn on the tube at a constantly changing angle, leaving air spaces between adjacent coils. (In the diagram, the colored and black lines show how the traverse is alternately lengthened and shortened.)

Because dry air penetrates freely to the inside layers, conditioning is much more rapid. Throwsters report one to five hours saved in lagging.

Further time and costs are saved with the Universal Sizing Machine because the sizing tube can be used directly — without intermediate redraw — as a supply on the No. 50 Pineapple Coner. 23.7.32

UNIVERSAL WINDING COMPANY

Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles, Montreal, Hamilton; Manchester, England; Paris, France; Basle, Switzerland. Agents in every principal textile center in the world.

UNIVERSAL SYSTEM OF NYLON SIZING AND CONING

Used by More Throwsters Than Any Other Method

for the purpose of acquiring the business and certain of the operating assets of the present Lonsdale Co., Providence, R. I., and will thereafter carry on the business. The warrants which may be exercised during a period of three weeks from the date of issue will be mailed to stockholders on or about the effective date of the registration statement. Stockholders will be notified by a supplementary letter of the record date and the price at which the warrants may be exercised. Shares not purchased on the exercise of the warrants will be sold to underwriters.

Hunterville (Ala.) Mfg. Co. has tentative plans under consideration for an addition to Mill No. 1, forming a third wing extension. The cost is reported to be over $1,000,000, with equipment.

Broad Brook (Conn.) Co., men's suitings, unholstery fabrics and other woolen goods, has let contract for a boiler house at the mill.

Bibb Mfg. Co., Macon, Ga., has let general contract for four one-story additions to the branch mill at Columbus, Ga., for extension in the weaving shed, slasher room, cloth room and boiler house. Additional equipment will be installed.

A. D. Juilliard & Co. Inc., has curtailed operations to a three-day week basis at the mill in Rome, Ga., narrow gauge sheetings, until further notice.

Borden-Shawmut Corp., Fall River, Mass., has been incorporated to manufacture cotton and rayon fabrics. Richard K. Hawes is president.

Lou Fabric Co., Haverhill, Mass., has been chartered with a capital of 300 shares of stock, no par value, to manufacture cotton fabrics, shoe trimmings, etc. Nathan Sevetnick is president and treasurer.

Hillsborough (N. H.) Woolen Mills, Inc., has discontinued operations and property will be placed on the market. The company will be liquidated.

Laconia (N. H.) French Dye & Finishing Corp., recently organized, has acquired a tract of land in the Cass Point district, and has plans for the construction of a mill. Robert Brice, Woonsocket, R. I., is president.

Gibson Woolen Mills, Inc., Tilton, N. H., woolen goods for men's and women's wear, has curtailed operations to about one-half normal production and will soon close the mill for an indefinite period pending receipt of new orders.

"—my superintendent always

CONTACTS COMER!"

No need to let production lag because you need machinery when it's so easy to contact Comer.

Comer maintains contacts in all the world's great textile centers. Comer can help you secure needed machinery quickly and economically . . . for any phase of textile manufacture.

Also, if excess machinery is occupying valuable floor space — Comer can help you dispose of it profitably.

In buying or selling — it pays to CONTACT COMER. Call, wire or cable today.

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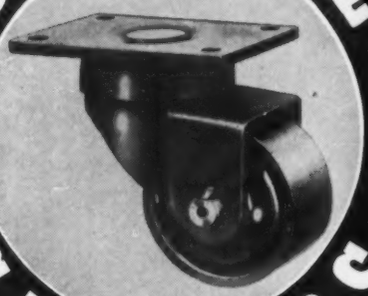

A SAVING AT EVERY TURN

Darnell Dependability assures savings, service, safety, speed. A caster or wheel for every use.

You are sure to find the exact caster or wheel for your individual requirements in the Darnell line.

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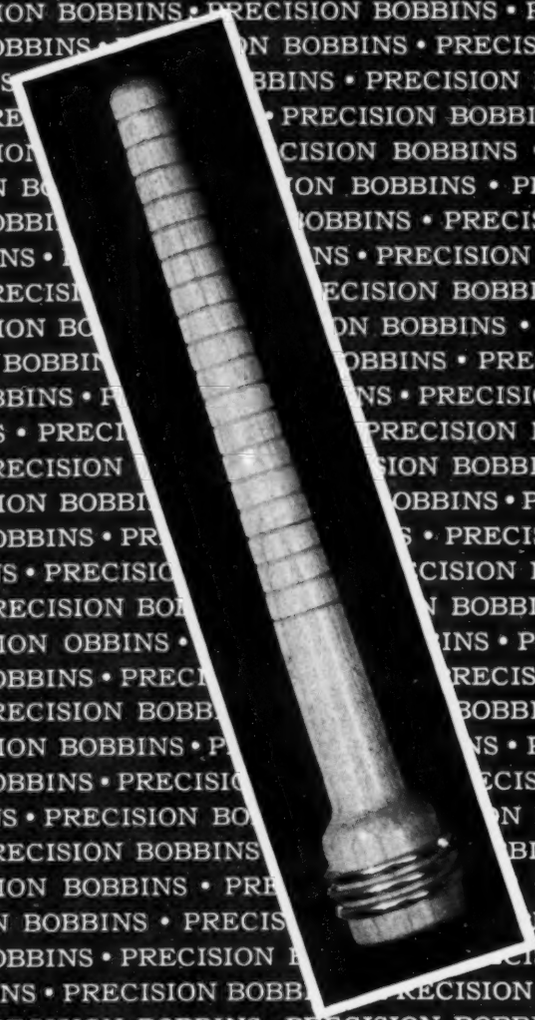

Carefully gauged for accuracy . . . tested on customers' own spindles . . . making certain that spindle hole from butt to tip is straight, round, and the different diameters concentric.

Every New England Bobbin must be PRECISION

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NASHUA, New Hampshire
Telephone: 2406

Diana Mills, Inc., Neuse, N. C., cotton yarns, has arranged for the purchase of Erwin Cotton Mills Co., Durham, N. C., sheetings and other cotton goods, and plans to carry out the modernization and expansion program recently projected by the Erwin company.

A. M. Smyre Mfg. Co., rayon yarns, now operating two mills manufacturing combed yarns in Gastonia, N. C., has plans for an expansion and conversion of a warehouse building into a third production unit, to be devoted exclusively to spun rayon.

Global Mills, Inc., recent purchaser of Jennings Cotton Mill, Dennis Yarn Mills and other affiliated properties at Lumberton and North Lumberton, N. C., has been chartered under Delaware laws, with a capital of 2000 shares of stock, no par value. W. M. Nicholson, Charlotte, N. C., is president.

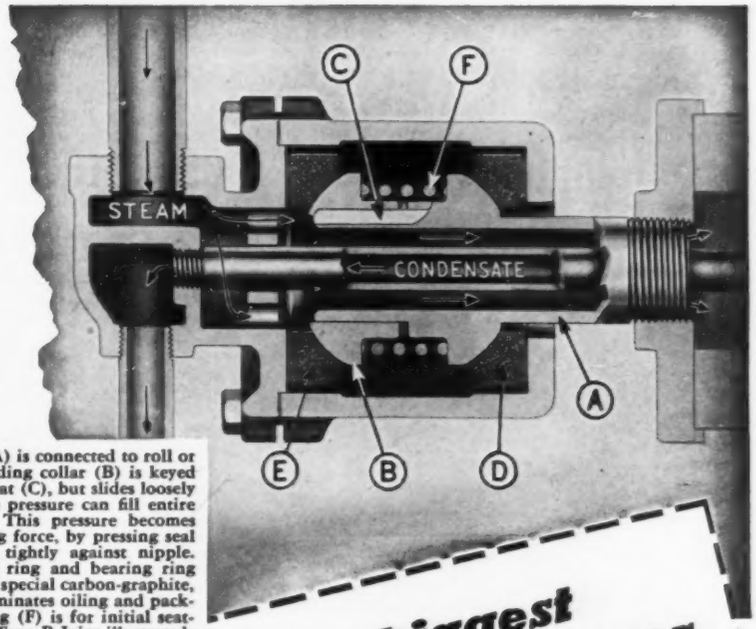
Cone Mills, Greensboro, N. C., have awarded general contract for additions to the plant of Proximity Mfg. Co., Pineville, N. C., cotton fabrics. The project will consist of a one-story weave mill and a group of six one-story warehouses. The cost is estimated at close to $1,000,000, with equipment. Cone has also taken out a permit to construct a one-story addition to the Revolution Cotton Mills, Greensboro, N. C. The cost is reported to be over $40,000, with equipment.

American Wringer Co., Woonsocket, R. I., has concluded arrangements for the erection of a one-story building in Raeford, N. C., to be occupied under long-term lease as a thread mill. The plant will specialize in the manufacture of elastic thread for use in stocking tops, girdles, etc.

Stonecutter Mills Corp., Spindale, N. C., rayon and cotton goods, has approved plans for a three-story addition, a portion of which will be used for office service and the larger part for manufacturing operations. The cost is reported to be over $500,000, with equipment.

Rhode Island Fabrics Co., Pawtucket, R. I., has let general contract for a four-story addition, reported to cost over $100,000, with equipment.

Limestone Mfg. Co. has been chartered with a capital of $500,000 to operate a mill in Gaffney, S. C., for the manufacture of cotton goods. Archie C. Joslyn, Gaffney, is president.



Nipple (A) is connected to roll or drum. Sliding collar (B) is keyed to nipple at (C), but slides loosely over it so pressure can fill entire housing. This pressure becomes the sealing force, by pressing seal ring (D) tightly against nipple. Both seal ring and bearing ring (E) are of special carbon-graphite, which eliminates oiling and packing. Spring (F) is for initial seating only. Type B Joint illustrated; other types, sizes for all needs.

...it's the biggest little trouble-saver in the mill...

In terms of physical size alone, the Johnson Joint could hardly be called big machinery. But in its ability to save time and trouble, and promote plant efficiency, its stature approaches anything the industry has ever seen.

The Johnson Joint was designed to go after the old stuffing box and steam fit troubles in a businesslike way, and it literally knocks the stuffing out of them. There's no packing of any kind. There's no oiling required, ever. There's no adjusting — the higher the pressure, the tighter the seal. There's little to fear from misalignment—with provision for both lateral and angular movement built right in. Note besides how neatly it provides for more efficient syphon drainage, through the same head that admits the steam.

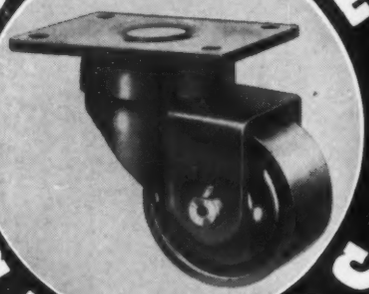
In dollars and cents, what does all this add up to? Well . . . enough at least to pay the cost of switching over to Johnson Joints in just a short while. Enough certainly to make the Johnson Joint too big to overlook.

Write for literature and the name of your nearby Johnson representative.

JOHNSON
Rotary Pressure
JOINTS

THE JOHNSON CORPORATION
815 WOOD STREET
THREE RIVERS, MICH.

DARNELL CASTERS



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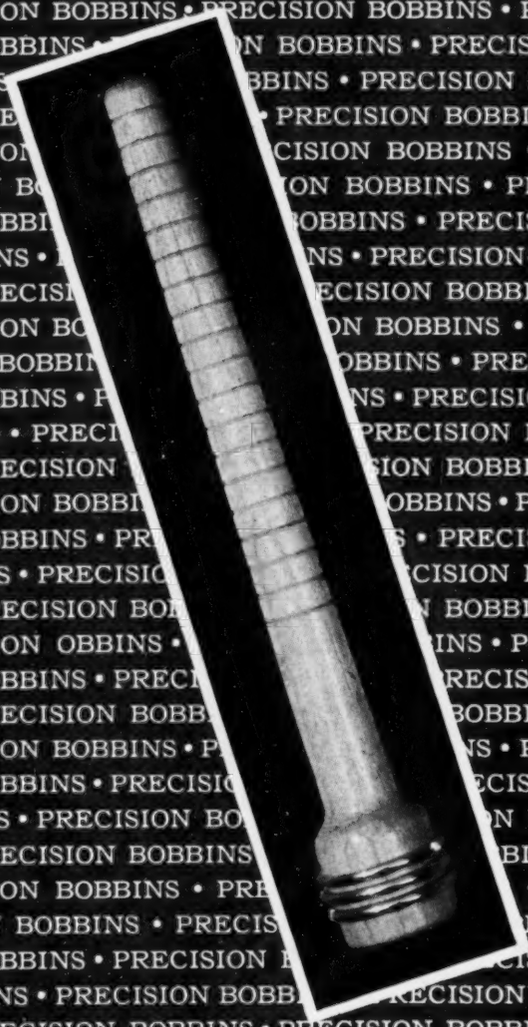

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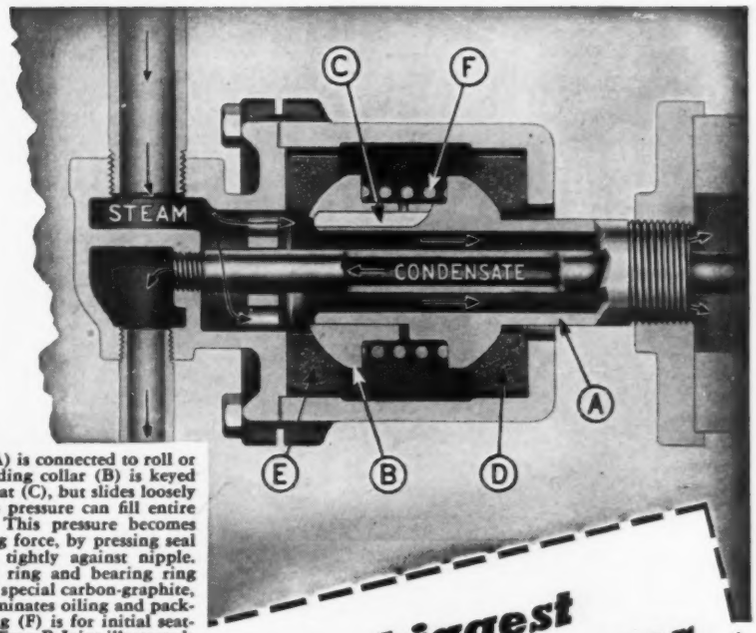
Cone Mills, Greensboro, N. C., have awarded general contract for additions to the plant of Proximity Mfg. Co., Pineville, N. C., cotton fabrics. The project will consist of a one-story weave mill and a group of six one-story warehouses. The cost is estimated at close to $1,000,000, with equipment. Cone has also taken out a permit to construct a one-story addition to the Revolution Cotton Mills, Greensboro, N. C. The cost is reported to be over $40,000, with equipment.

American Wringer Co., Woonsocket, R. I., has concluded arrangements for the erection of a one-story building in Raeford, N. C., to be occupied under long-term lease as a thread mill. The plant will specialize in the manufacture of elastic thread for use in stocking tops, girdles, etc.

Stonecutter Mills Corp., Spindale, N. C., rayon and cotton goods, has approved plans for a three-story addition, a portion of which will be used for office service and the larger part for manufacturing operations. The cost is reported to be over $500,000, with equipment.

Rhode Island Fabrics Co., Pawtucket, R. I., has let general contract for a four-story addition, reported to cost over $100,000, with equipment.

Limestone Mfg. Co. has been chartered with a capital of $500,000 to operate a mill in Gaffney, S. C., for the manufacture of cotton goods. Archie C. Joslyn, Gaffney, is president.



Nipple (A) is connected to roll or drum. Sliding collar (B) is keyed to nipple at (C), but slides loosely over it so pressure can fill entire housing. This pressure becomes the sealing force, by pressing seal ring (D) tightly against nipple. Both seal ring and bearing ring (E) are of special carbon-graphite, which eliminates oiling and packing. Spring (F) is for initial seating only. Type B Joint illustrated; other types, sizes for all needs.

...it's the biggest little trouble-saver in the mill...

In terms of physical size alone, the Johnson Joint could hardly be called big machinery. But in its ability to save time and trouble, and promote plant efficiency, its stature approaches anything the industry has ever seen.

The Johnson Joint was designed to go after the old stuffing box and steam fit troubles in a businesslike way, and it literally knocks the stuffing out of them. There's no packing of any kind. There's no oiling required, ever. There's no adjusting — the higher the pressure, the tighter the seal. There's little to fear from misalignment—with provision for both lateral and angular movement built right in. Note besides how neatly it provides for more efficient syphon drainage, through the same head that admits the steam.

In dollars and cents, what does all this add up to? Well . . . enough at least to pay the cost of switching over to Johnson Joints in just a short while. Enough certainly to make the Johnson Joint too big to overlook.

Write for literature and the name of your nearby Johnson representative.

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Rotary Pressure
JOINTS

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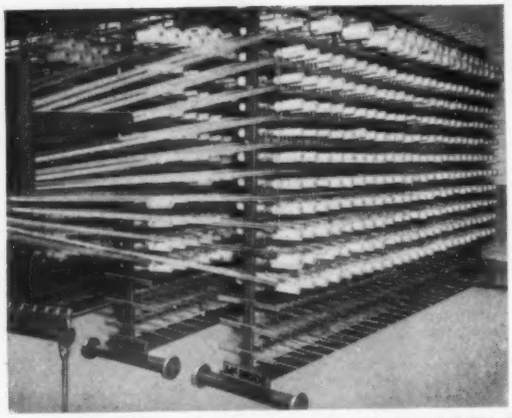

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Jackson Mills, Wellford, S. C., sheetings, etc., have awarded general contract for a one-story addition to the branch mill at Iva, S. C., to be equipped for expansion in the weaving department. The present weave mill will be remodeled and improved, new air conditioning equipment, new looms and auxiliary equipment will be installed. The cost is reported as close to $1,000,000, with machinery.

Woodside Cotton Mills Co., Inc., Greenville, S. C., print cloths, twills, etc., has arranged for a change of name to Woodside Mills, Inc., and at the same time capitalization was increased to $4,000,000, for general expansion.

Winchester (Va.) Woolen Co., woolens for men's wear, is arranging for an early closing of the mill and voluntary liquidation of the company.

Hypatex Corp., Dover, Del., has been chartered under state laws with a capital of $100,000, to manufacture cotton and rayon fabrics.

Textron Southern, Inc., Charlotte, N. C., cotton and rayon products, has approved the construction of a branch mill at Hartwell, Ga., consisting of a one-story, air-conditioned, windowless building. The cost is reported to be over $500,000, with equipment.

Mount Vernon-Woodberry Mills, Inc., Baltimore, Md., cotton yarns, twines, etc., has awarded contract for the construction of a power substation at the mill.

Pacific Mills, Boston, Mass., have plans to expend over $5,000,000 for plant expansion and modernization at their different mills. Considerable new equipment and facilities will be installed.

Arlington Mills, woolen and worsted goods, have active work in progress on a large expansion and modernization program at the mills in Lawrence, Mass. New equipment and facilities, change-overs, etc., will be installed, and the total investment will be in excess of $2,500,000.

Limerick Yarn Mills, Manchester, N. H., worsted, mohair and other yarns, have disposed of mill properties at Limerick, Me., to Grossman Family Charitable Trust, Quincy, Mass., which includes mill buildings, 53 dwellings, two hotels and a theater. Limerick's mill in Maine will occupy about one-half of the former space, and will consolidate production accordingly.

Burlington Mills Corp. has awarded general contract for a one-story addition to the mill in Greensboro, N. C., reported to cost in excess of $200,000, with equipment. The company has plans to expend approximately $15,000,000 for additions and improvements in the various mills, and will install additional machinery and facilities.

Oregon Flax Mill has plans under way for a one-story addition to the plant in West Salem, Ore., which is designed to double the present capacity.

Duplan Corp., Berwick, Pa., rayon and nylon yarns for weaving, etc., has plans for a one-story addition, reported to cost over $200,000, with equipment.

El-Jay Fabrics, Inc., New York, N. Y., has arranged for the purchase of a large plant at York, Pa., previously owned and occupied by Martin-Perry Corp., Toledo, Ohio, for the manufacture of automobile bodies. The new owner will remodel and improve several of the large structures, there being 10 one-story buildings inclusive, and will equip for the manufacture of nylon and rayon fabrics. Julius Caplan is president of the company.

Triangle Prints Co., Inc., has been chartered with a capital of 300 shares of stock, no par value, to operate a textile printing and finishing works in Phoenix, R. I. James M. McGarry, Johnston, R. I., is the principal incorporator.

Excelsior Mills, Union, S. C., a division of Deering, Milliken & Co., Inc., New York, woolen goods, have awarded general contract for the erection of a one-story air-conditioned, windowless mill at Pendleton, S. C., to be equipped for twisting and weaving filament rayon fabrics. The cost is reported to be over $650,000, with equipment.

The United Piece Dye Works, New York, N. Y., has announced the opening of a completely equipped roller printing department at its plant in Los Angeles, Calif. Rayon crepes, Bemberg sheers, rayon jerseys, spun rayons, and novelty weaves will be processed. John R. Roscow formerly in the company's printing department at Lodi, N. J., has been named manager.

Another system of spinning worsted yarn has been developed at Normandie Mills, Nashua, N. H., and has been named the Normandie System.

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Solving sizing problems does not represent to us a simple matter of supplying our products—it calls for expert analysis by men of our staff who are at home in the mills and who speak the language of technical knowledge.

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RAYCO

for COTTON AND SYNTHETIC FIBERS

AN
EXECUTIVE VIEWS

THE NEWS IN TEXTILES

This department is prepared by a man who is closely identified with the textile industry.

Lo, The Poor Convention Delegate!

Most of us figure that if we attend two textile conventions during the year we have spared about as much time as possible from our duties of operating textile mills. But did you ever consider the fact that some of our poor unfortunate friends in the industry, who have mills in several states, have just completed a round of four conventions within the past sixty days?

In the South, spring is definitely the "convention season." It's over now, and those individuals who have taken them all in have now put away their dinner jackets and have put their ulcers back on a milk diet.

But consider our luckless friend, the man who has "covered" all the South's leading textile meetings this year:

First, he started off in early April with Biloxi, Mississippi. Here he was wined and dined by the Alabama Cotton Manufacturers Association, and here he enjoyed the healthful, though somewhat chilly, rays of the Gulf sun. With the rolling verses of "Casey at the Bat," the featured recitation at the Alabama banquet, still ringing in his ears, he went back home and just had time to get his shirts in the laundry and get them back again.

By the time he had gotten them back, the train announcer was calling the departure of the special train for New Orleans and the fifty-second annual meeting of the American Cotton Manufacturers Association.

The Roosevelt

Our delegate caught the last car of the special as it rolled through the station and woke up the next morning in New Orleans to find himself in the midst of the largest meeting in the history of A.C.M.A. He found business meetings better attended than ever before and found, too, the Roosevelt Hotel's grand ballroom, "the room of mirrors," filled to capacity with the apprximately 775 people who attended the convention.

QUALITY RICHMOND PRODUCTS

NO. 3 OF A SERIES

ATTENTION HOSIERY DYERS!

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DYETEX

FOR BETTER SCOURING

DYETEX is a compound for boiling off and dyeing nylon hosiery more efficiently and economically than soap.

DYETEX is made up of synthetics coupled with suitable dispersing agents that give amazing results when properly used.

DYETEX not only removes the size and coning oils easily, but other oils, such as needle oils, residues from needle cleaners, etc., are also taken out. In addition they are held in solution so that when a scour bath is dropped, the residues drop with it.

DYETEX, in dye baths, acts as a dispersing and levelling agent. While it will not do the work of a dyer, it will make his work easier.

FOR BETTER SCOURING AND DYEING

TWO-BATH METHOD

(a) *SCOUR:* Scour first at 150 degrees F. for 20 minutes with:
6% of DYETEX
1% of Solvopen W Paste
1½% of Tri Sodium Phosphate.
Plug the bath.

(b) *DYE:* Use 2% of Solvopen W Paste.
Start at 120 degrees F.
Slowly bring up to 150 degrees F. for 1 hour.
Sample.

ONE-BATH METHOD

(a) *SCOUR:* Scour first at 150 degrees F. for 20 minutes with:
6% of DYETEX
1% of Solvopen W Paste
1½% of Tri Sodium Phosphate
Plug the bath.

(b) *DYE:* Use
4% of DYETEX
1% of Solvopen W Paste
1½% of Tri Sodium Phosphate
Start at 120 degrees F.
Run 5 minutes.
Then put dye and run at 150 degrees F. for 1 hour.
Sample.

Samples and more detailed information upon request.

Southern Office

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Charlotte 2-1428

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Almost before he could get back home, and certainly before he could recuperate from the lobster and pompano of Antoine's, our harassed delegate found himself en route to the annual meeting of the Cotton Manufacturers Association of Georgia.

Daytona Beach

Here he found the Georgia people were featuring as their banquet speaker Rev. George D. Heaton, a Charlotte, N. C., minister. This was quite a change, since the year before the invited speaker had been a newspaper man. Dr. Heaton presented an interesting, thought-provoking address which was worthy of sober reflection.

Our delegate found the Sheraton Plaza Hotel to be an ideal spot for any type of reflection, sober or otherwise, but almost before he could get his sunburn lotion out, he was headed north again. Here he found an accumulation of unanswered mail dated some six weeks before, and when he opened his brief case he found three sea shells and the remains of a stuffed deviled crab. He closed the brief case quickly as he realized that the end had not yet come. Almost before he knew it, he was off for Asheville, North Carolina.

Mountain Music

Here, in the rarefied atmosphere of the Grove Park Inn, our unfortunate textile man flexed his arches for the square dance and unlimbered his golf clubs as the annual meeting of the Cotton Manufacturers Association of South Carolina got underway on the last weekend in the month of May.

He couldn't quite figure out what people from South Carolina meant by holding a meeting in North Carolina. But by that time, whenever he saw a gavel he just automatically rose to his feet, and in a clear voice said, "I move the adoption of the resolution."

Barely had he had time to digest the banquet meal before he was taking the hair-pin turns at Chimney Rock, and the South Carolina meeting had become a few stern pages in a minute book.

Return of the Prodigal

But even the man who goes to all the spring textile meetings must one day go home, and so it was with this delegate we have in mind. He finally found his way back a few days ago and waded through the knee-deep grass in his front yard. His small son was standing in the walk but ran screaming into the house,

ONYX IONICS

Newsworthy items for textile technologists and production men

JUNE, 1948

For Improved Stiffening and Sizing of Cotton, Rayon, Acetate and Nylon Fabrics

The Xyno Resins offer an interesting range of effects in body and stiffness on fabrics of all kinds. These resins are water dispersions of thermoplastic synthetic resins, which dry to a clear, tough finish without impairing luster, and which require no curing or high temperature "setting." Goods are treated in the usual manner.

Resin 362 is a viscous dispersion, providing the stiffest hand of the three Xyno Resins. It is particularly useful on ninons, marquisettes and organdies.

Photograph courtesy Pacific Mills

Resin S 69 is a water-thin dispersion, imparting a unique, dry, "springy" hand which is particularly attractive on nylon, rayon and acetate nettings. S 69 provides the best wash fastness of all the Xyno Resins.

Resin AA 40 is a thin dispersion with a very general range of application, though it is particularly useful in sizing and stiffening ribbons and dress piece goods.

Maprofix Paste Does a Superior Job of Wool Scouring

Maprofix Paste is one of the most potent of scouring agents. It leaves wool skeins, raw wool and wool and worsted piece goods in firmer, more resilient, fuller bodied condition than the best grade of soap, and rinses out faster and better. Scouring costs with Maprofix Paste are materially less than with high quality soap.

A plant-scale tryout of Maprofix Paste will convince you of its superior emulsifying and detergent action. We shall be glad to work out the details of such a test with you at any convenient time.

If you'll ask for Onyx Technical Bulletin 15-T, you can study the chemical and physical characteristics, advantages and performance of Maprofix Paste in detail.

Cationic Moth-Proofing Lasts!

Two Onyx cation-active quaternary compounds have been highly successful in moth-proofing. Not only is the effect obtained notably resistant to dry cleaning and laundering, but treated goods have marked bacteriostatic and fungistatic properties. Moreover, considerable softening action is also obtained during the moth-proofing treatment.

Imularv P is sold in 50% water solution . . . Imularv S in 75% alcoholic solution. The former is usually employed in the pad, using a 2% solution with the squeeze adjusted to 100% take-up. Treated goods are hydro-extracted and dried. Imularv S is used in organic solvent solution, usually applied as a spray, although it is often used in fresh solvent after dry cleaning. For spraying, a 1% solution of Imularv S in Varsol, carbon tetrachloride, etc., is used. For use after dry cleaning, a 1% solution in regular dry cleaning solvent is employed.

This Scroop is Durable to Ageing and Weathering

Onyx Silk-O-Rays give you a much better scroop on rayon, acetate and cotton knit goods or mixed constructions of these fibers than you can get with acetic, tartaric or other organic acids. The finish is durable to ageing and weathering. All of the Silk-O-Rays are stable to heat and hard water, and store well without deterioration.

Goods are treated in the quetsch, padder or dye box, followed by drying in the usual manner.

The particular Silk-O-Ray most suited to your goods can best be determined by trying out all three—Silk-O-Ray F, Silk-O-Ray NS and Silk-O-Ray SG. Write for Onyx Technical Bulletin 17-T.

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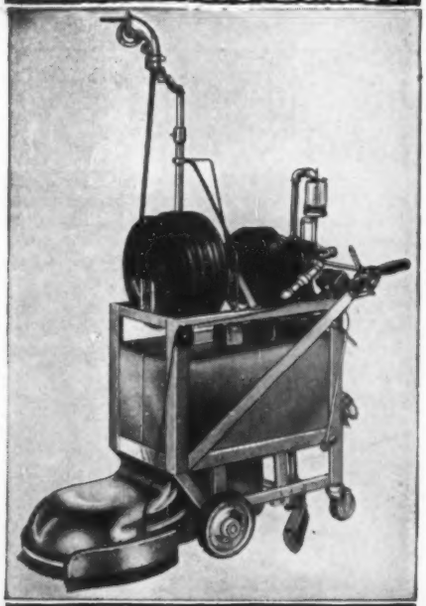
CLEAN FLOORS
in 1 the Time with 2 the Labor



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- Scrubs Floors Evenly
- Removes Dirty Water

One operator works the easy controls. Clean water is fed from one tank upon the soaped floor which is then scrubbed with a 19" diameter revolving brush. Behind it a rubber squeegee mops up the dirty water which is vacuum pumped into a second tank.

The Lawlor 20-D is just the machine for large floor areas. Only 22" wide, it can be used in congested places, around machines, counters and desks. Available for either AC or DC current.

Write for new catalog giving description of the Lawlor 20-D and complete line.

MOP WRINGERS
All steel with perforated rolls. Easy foot-lever operation. Made for one or two pails.

MOPPING TANKS
Heavy galvanized steel with welded seams. Two compartments, each with shut-off. Foot pressure wringers. 30 or 60-gallon capacity.

SCRUBBERS and POLISHERS
12 different styles, a right size for every need. Your choice of Tampico, Palmetto or Steel Wire brushes.

Sold and Serviced by local Janitor Supply Houses

S. C. LAWLOR CO.
Makers of Quality Equipment for 50 Years
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calling to his mother that a strange man was outside. But the unkindest cut of all came when his wife met him at the door and told him that she didn't need any brushes, he had better try the house next door.

All that is history now, however, and he's been accepted back into the fold. But when he had just about made up his mind to mow the front yard, he remembered that the North Carolina Cotton Manufacturers Association is meeting at Pinehurst in October. Hastily he grabbed for a textile directory and found after much diligent searching that he was secretary-treasurer of a small spinning mill near Gastonia. He had put up the lawn mower and was polishing his golf clubs when his wife came across an item in the paper which stated that the National Cotton Council was going to meet in California in November. Her eyes got that glazed look in them that he had come to understand, and he waited to hear no more. When last seen, he was headed across the open fields toward Pinehurst. But he was happy because he was remembering the fish-fry at Daytona Beach and some of the other attractions at New Orleans.

As he ran across the corn rows, he kept saying, over and over, "Now, therefore, be it resolved . . . Now, therefore, be it resolved . . . "

In More Serious Vein

But to get back to the serious side for a moment, speaking of resolutions reminds us of one which was adopted at New Orleans by the American Cotton Manufacturers Association which is of particular importance to nearly all phases of the cotton industry. For some time the mills have been discovering stains in their product which have been caused by painted baling ties. It seems that reconditioned ties are sometimes painted with an asphalt paint which, when the tie is tightly bound about the bale, causes a stain on the raw lint which carries on through the mill.

This particular resolution called this fact to the attention of growers, shippers, ginners and other interested groups, and urged that such painting be discontinued.

The resolution having to do with baling ties was only one of the important actions taken at the spring textile meetings, but we wanted to mention it here if for no other reason than to illustrate the fact that our delegate described earlier in this column did not spend all of his time at Antoine's.

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Let Us Survey Your Needs

Call on Monarch engineers for a free consultation on new elevator installations, or for the modernization, repair or maintenance of your present elevator equipment, regardless of its make.

Your Satisfaction Assured

Monarch Elevators are built in the South. They are designed by engineers who are intimately acquainted with the elevator needs of Southern mills, factories, and office and public buildings. Below you will find a few of many leading Southern users who rely on Monarch

Belk Stores	Pacific Mills
Burlington Mills	Proximity Mfg. Co.
Chatham Mfg. Co.	Southern Railway
Coca-Cola Bott. Plants	Springs Cotton Mills
Duke Power Co.	Swift & Co.
Duke University	Vick Chemical Co.
N. C. State Hospitals	Celanese Corp. of Am.

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GREENSBORO, North Carolina
The Largest Firm in the Southeast Devoted Exclusively to Elevator Manufacturing

NEWS in BRIEF

Plans for AATCC National Convention. "Advancing Textiles Through Research" will be the theme of the 27th annual convention of the American Association of Textile Chemists and Colorists to be held at the Sheraton Bon Air Hotel in Augusta, Ga., October 21-23. The three Southern sections —Piedmont Section, South Central Section, and the Southeastern Section—will be joint hosts for the convention. Every detail that will make for the comfort, convenience, pleasure and inspiration of those attending has been carefully considered. Hotel reservations are not being accepted yet, but adequate facilities will be available for all. Further details on reservations will be announced at a later date.

Program to Strengthen Cotton's Markets in Coated Fabrics Industry. A four-point program to strengthen cotton's markets in the coated fabrics industry has been announced by the National Cotton Council. Currently the coating industry is consuming cotton fabrics at the rate of more than 500,000,000 yards annually. The Council's recommendations include: research studies directed toward enhanced quality in fabrics for coating, a close working relationship with the coating industry, adoption of standards of quality construction, and utilization of sales promotion opportunities in exploiting the superior qualities of coated cotton fabrics. Copies of the study are being distributed to cotton spinning and textile mills across the country and to key research and technical leaders in the textile field.

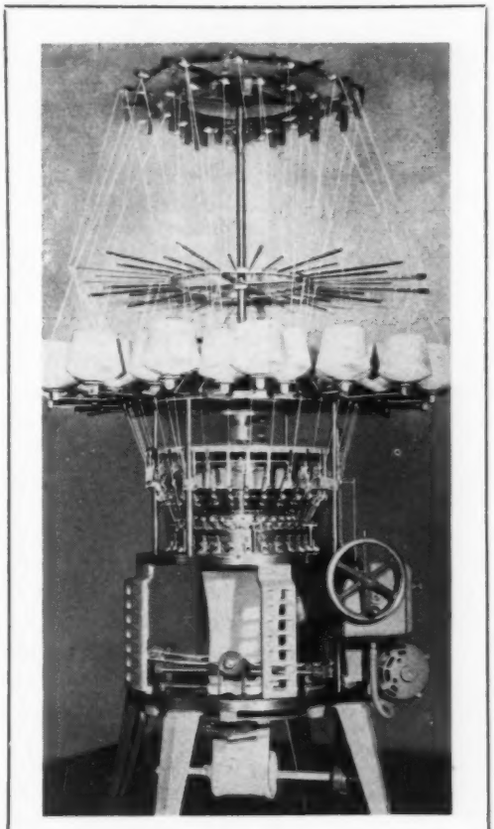
Standards for International Trade. A delegation of American authorities on standards and testing in the textile industry has been invited to attend the annual meeting of the British Textile Institute at Buxton, England, for the purpose of discussing standards for international trade for all phases of the industry. The delegation will be under the leadership of D. E. Douty, chairman of the board of directors of the United States Testing Co., Hoboken, N. J. While the meeting is not directly connected with the European Recovery Program, the setting up of international codes of procedure governing tests of materials will, it is said, have an important bearing on qualities of import and export textiles.

New England Textile Foundation Sponsors Exchange Professorship. For the first time in the history of textile education in this country, an exchange professorship will be instituted between an American and an English textile school, according to a joint announcement by Kenneth R. Fox, president of Lowell Textile In-

PROFITS COME FASTER WITH THE NEW...

20" DIAMETER 30 FEED EDMOS

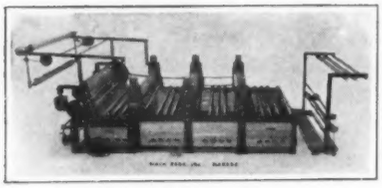
Type EEM Super Multi Feed Plain Rib Body Machine



FOR YOUR HIGH SPEED KNITTING NEEDS—The new Edmos type EEM, with 1½ feeds per diameter inch, has proven it can produce up to four times more work than older type machines—all within the same floor space! Especially designed for the manufacture of fabrics in the Swiss rib family; ideal for the production of quality fabric for "T" shirts, polo shirts and basque shirts.

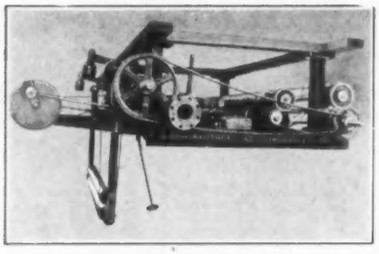
See a demonstration at the Edmos plant.

EDMOS PRODS. CORP., 13 Christopher Ave., Bklyn., N. Y.



NEW BALL BEARING CONTINUOUS OPEN WIDTH MACHINE

Pressure applied through Pneumatic Cylinders and machine fitted with Cloth Guider. For crabbing Worsteds, Serges, Rayon Mixtures, etc. Scouring for Pile Fabrics, Dyeing or Soaping for Cottons and Rayons. Individual Motor or Side Shaft Drive. Machine made of material suitable for application, stainless, wood, cast iron. Last Nip a 30,000 pound squeeze for extracting.

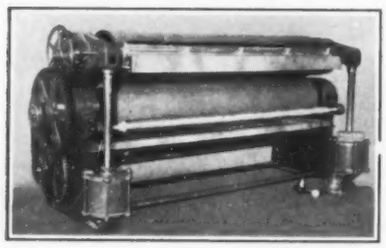


Heavy Duty All Ball Bearing

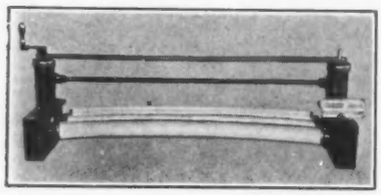
CLOTH OPENING and FOLDING MACHINE

with Vacuum Extractor

All Drives by Cut Gears or Roller Chain. Drive by Built-in Motor, for opening and extracting woolens, worsteds, plushes, cottons and rayons. Excellent extraction.



New Pneumatic Pressure Roller Bearing Squeeze Roll Extracting Unit. Pressure 30,000 lbs. Machine fitted with Flock Brush, Stainless Steel Pan to catch flocks, and Stainless Steel Drip Pan. Drive supplied either Constant Speed or Variable Speed with 5 HP or 7½ HP Motor.



Three-Bar Curved Rubber Expander with increased thickness of rubber giving longer life and better stretch, and fitted with trouble-proof bushings. Three Bar and Single Bar Expanders available from stock.

BIRCH BROTHERS, INC.

BIRCH TREE

32 KENT STREET

SOMERVILLE, MASS.

Phone: PROspect 3512

Southern Representative:
John C. Cosby, P. O. Box 212
Greenville, S. C.

HAROLD W. BIRCH CLIFFORD W. BIRCH
STANLEY W. BIRCH

stitute, and the New England Textile Foundation.

Eastern Carolina STA Meet. The spring meeting of the Eastern North Carolina Division of the Southern Textile Association was held at North Carolina State College, Raleigh, N. C., on April 24.

G. E. Moore of J. M. Odell Mfg.

Messrs. Moore and Marley

Co., was elected chairman of the division succeeding A. R. Marley of Erwin Cotton Mills. E. C. Horner, also of J. M. Odell Mfg. Co., was named vice-chairman. J. R. Meikle of Paterson Mills was elected secretary.

Southern Textile Exposition at Greenville, Oct. 4-9. The 15th Southern Textile Exposition to be held in Greenville, S. C., Oct. 4-9, will include many new things in the way of machinery, equipment and processes. It is understood that space has already been assigned to more than 190 companies. The interest in the show has made it necessary to restrict the attendance to those connected with the industry. Cards of admission will be supplied by the exhibitors and management. No tickets will be sold at the box office. A suggestion as to housing is that visitors may obtain quarters in a number of hotels near Greenville. A printed list of these may be had by addressing Textile Hall Corporation, Greenville, S. C.

Good Business Ahead in Cotton and Rayon Trades, Says Pepperell Executive. "We have by no means saturated our American markets for cotton, rayon and blended fabrics," said Donald B. Tansill, vice-president in charge of sales,

SPINNERS!

HERE ARE YOUR FOUR FREEDOMS!

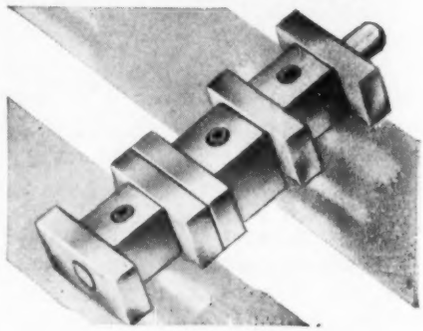
Freedom from

1. **Oiling.**
2. **Heavy lint accumulation.**
3. **Frequent roll picking.**
4. **Expensive cap bar wear.**

This NEW

CAP BAR

Provides Them



The new Dixon Cap Bar* provides long draft spinners with an oil-free, frictionless drafting unit that cuts spinning cost and increases yarn quality. It features replaceable SLIXONICE* nebs with four wearing surfaces instead of the usual one, and opens the way to new spinning accomplishments, especially when used with the new Dixon SLIXONICE Saddle.

The new cap bar is adjustable for each roll, has a positive locking device, and reduces average power consumption.

Send for the new Dixon SLIXONICE booklet. It tells all about the new cap bar and the new SLIXONICE saddle. You'll see just how this startling combination can cut *your* spinning costs and improve the quality of *your* yarn.

*Trade Mark; Pat. Applied For

DIXON

LUBRICATING SADDLE CO

Established 1876

BRISTOL — RHODE ISLAND

Sole Manufacturers of

SLIXONICE

Saddles and Cap Bar Nebs

Pepperell Manufacturing Co., in a bulletin recently issued to salesmen of his company. Mr. Tansili said that he looks for a good fall and winter business in the trade. The price structure has been firm, he added, and some needed corrections have taken place in out-of-line cotton and rayon goods prices.

Heating and Drying Conference Held at Charlottesville. Representatives from public utility corporations, equipment manufacturers, and the textile industry assembled at the Institute of Textile Technology at Charlottesville, Va., recently to confer on the subject of heating and drying as applied to textiles. Members of the institute staff presented to the group a statistical survey on drying textile materials and a discussion of technical and economic factors in textile drying. Tests on a wide variety of drying equipment were described and estimates of direct operating costs were presented. The importance of removing the water vapor was demonstrated by presentation of operating data. It was concluded that a properly designed exhaust system could increase the efficiency of drying some 20%. Convection, infrared drying, and dielectric drying were also discussed. A liason committee for cooperation between the utility companies, equipment manufacturers, and the textile mills was appointed to implement the program.

New Bancroft Fabrics. Durable lustrous effects for spun rayon and mixtures of rayon and cotton, and durable subdued and deep-seated luster cottons and rayons are two new fabric developments announced by Joseph Bancroft & Sons Co. Both the rayons and cottons are said not to fray out, but retain their durable degree of luster, crease-resistance, and other qualities through repeated dry cleanings and washings. The company recently extended its operations into the international field on a world-wide scope.

Standard for Cotton and Rayon Velour Revised. The recommended revision of cotton and rayon velour (jacquard and plain) Commercial Standard CS103-42, has been approved for promulgation. The revised standard will be identified as CS103-48, Rayon Jacquard Velour (With or Without Other Decorative Yarn) and will be effective for new production from May 20, 1948. The present edition of the standard was undertaken at the request of the Upholstery and Drapery Fabric Manufacturers Association, Inc., to cover a higher quality of this material as a minimum standard for the industry. Its requirements are based on the same characteristics as the previous edition, but in order to maintain a higher quality the number of pile tufts and picks have been increased. A change is also made in the method of taking test specimens. Until printed copies of the standard are available, mimeographed copies may be obtained from Commodity Standards Division, National Bureau of Standards, Washington 25, D. C.

GIANTS in the world of Water Pumping

Peerless Hydro-Foil MIXED FLOW Pumps

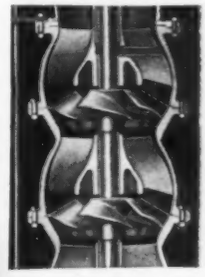
CAPACITIES: UP TO 220,000 G.P.M.
LIFTS: 2 to 60 FEET

Rapidly Move and Remove Vast Volumes of Water Against Low and Medium Heads

Highly successful in the efficient handling of large volumes of water, Peerless Mixed Flow Pumps are being applied to process work, condenser service, liquor and chemical circulation and a variety of industrial services where pumping is desired from open pits, sumps, and surface water sources, such as lakes, rivers, etc. and for large scale dewatering operations.

Peerless has proved the effectiveness of incorporating aero-dynamic streamlining principles to large-volume water lifting, resulting in new conceptions of high efficiences and lower overall pumping and maintenance costs.

Water turbulence accompanying the usual propeller and vane construction, and normally resulting in excess wear, inefficiency and loss of power, are reduced to the minimum in the Peerless Mixed Flow design.



Cutaway view of Mixed Flow multi-stage pump impeller and bowl construction revealing high-efficiency impellers utilized for more economical water lift.

Peerless Propeller Type Pumps

Peerless pumps, embodying the Hydro-Foil principle, are also available in the propeller type and are capable of handling identical capacities of the Peerless Mixed Flow pump. Request Bulletin B-148 completely describing the design, construction and application data of these two outstanding types of Peerless Pumps, for large-volume water pumping.

fmc PEERLESS PUMPS

PEERLESS PUMP DIV. FOOD MACHINERY CORP.
Los Angeles 31, Calif.; Indianapolis, Ind.; Quincy, Ill.
District Offices: New York 5, 37 Wall Street; Chicago 40, 4554 No. Broadway
Atlanta Offices: Rutland Building, Decatur, Georgia; Dallas 1, Texas; Fresno, Calif.; Los Angeles 31, Calif.

NEW PUBLICATIONS OF TEXTILE INTEREST

These publications are available upon request to the company at the address listed, or by writing "Textile Industries," Grant Bldg., Atlanta 3, Ga.

American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa. The 1948 A. S. T. M. Standards on Rubber Products (with Related Information) as prepared by Committee D-11, includes methods of testing specifications. (Priced at $4.00).

Durant Mfg. Co., 1929 North Buffum St., Milwaukee 1, Wis. A textile counter brochure illustrating and describing pick, hank and course counters; yardage, rotary, and several other types of Productimeters used in textile processing.

William Jenkins Advertising, 112 South 16th St., Philadelphia 2, Pa. A book presented to the people of Reading and Berks County, Pa., entitled "Industrial Berks County;" published by Textile Machine Works, Berkshire Knitting Mills, and Narrow Fabric Company, three Reading firms, and written by Dr. Arthur D. Graeff, an instructor in history and social sciences at Overbrook, Pa., High School.

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EASTERN COMMERCIAL TRAVELERS

Mutual Association • Direct Purchase

No Branch Offices

Massachusetts Company, Incorporated 1894

Insure Your Earnings . . . Protect All!

ACCIDENT POLICY PAYS		SICKNESS POLICY PAYS	
$5,000.00—$10,000.00 FOR ACCIDENTAL DEATH	$25.00—$50.00 FOR WEEKLY DISABILITY	$25.00 PER WEEK FOR CONFINING SICKNESS	$10.00 PER WEEK FOR NON-CONFINING SICKNESS
Estimated Annual Cost $15		Estimated Annual Cost $24	

MORE THAN 50 YEARS OF UNFAILING SERVICE

Provides protection 24 hours a day when traveling, while at work, around the home or on vacation

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Eastern Commercial Travelers
80 Federal St., Boston

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Name.....

Address.....

City..... State.....

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Mr. Ehlers

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HOW ANDERSON SHIELDS INCREASE SPINNING ROOM EFFICIENCY

Spinning rooms using Anderson Shields save time and money, and prevent disruption when unnecessary breaking, chipping, and splitting of bobbins and spools is avoided. In a year's time these items alone can amount to a surprising sum . . . Insist on Anderson and get the best protection metal shields afford . . . Watch your spinning room efficiency increase!

TEXTILE SHIELD CO., INC.

Metal Protection for Wood Turnings

J. N. ANDERSON, *Treas.*

LAWRENCE, MASS., U.S.A.

This *OASIS* Electric Water Cooler defies lint, dust, heat, acid fumes, or high humidity!

Provides efficient thirst-relief where other coolers fail

Employees in your industry have extra need for *properly cooled* drinking water. Plenty of fresh, *cool* water helps them do better work more easily because it makes them feel better. OASIS Model OP-10-W is built for the special needs of mills and foundries to give years of trouble-free service. Its stainless steel top and rustproofed, multiple-coated cabinet are heavily insulated. Equipped with a water-cooled condenser, the OP-10-W delivers full capacity in high temperature locations. Available with EBCO's famous, smooth-working dial-action bubbler for spurtless drinking ease. Write for complete information. Mail the coupon today!

OASIS ELECTRIC WATER COOLERS

The EBCO Manufacturing Co.
401 W. Town St., Columbus 8, Ohio

Please rush details on OASIS Model OP-10-W

NAME

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units of Union Carbide and Carbon Corp., New York, has been elected vice-president—chemical research of Union Carbide.

Clyde M. Lassiter, formerly associated with the Minneapolis-Honeywell Regulator Co., Brown Instrument Division, Philadelphia, Pa., has joined the Bijur Lubricating Corp., Long Island City, N. Y., as southern

Mr. Lassiter

sales engineer. He will operate out of Charlotte, N. C., and will contact mills in Alabama, Georgia, North and South Carolina. Mr. Lassiter will be available for consultation regarding the application of central lubricating systems to textile machinery.

A new southern sales area, with headquarters at New Orleans, La., and new district sales managers at New Orleans and Houston, Tex., have been announced by Mathieson Chemical Corp., New York (formerly The Mathieson Alkali Works). Vernon Woodside will be in charge in New Orleans and Roland F. Boehm will be in Houston. Mathieson has also assigned Dr. D. P. Morgan, formerly with W. R. Grace and Company, New York, as administrator of research and development.

The Manhattan Rubber Division, Raybestos-Manhattan, Inc., Passaic, N. J., honored 56 employees recently at the fourth annual dinner of the organization for 25 years of service.

Belco Industrial Equipment Division, Inc., Bogue Electric Mfg. Co., Paterson, N. J., has appointed Watermasters, Inc., Houston, Texas, to represent them in the Southwest.

The Grasselli Chemicals Department of E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., has made Henry F. Koll, formerly with the Philadelphia sales office, manager of the company's district office in Charlotte, N. C.

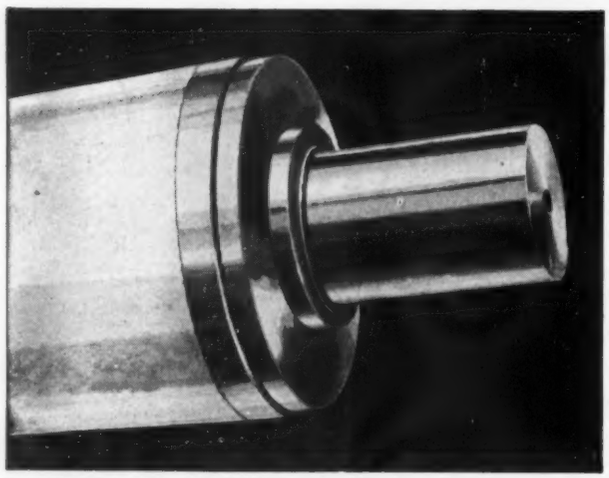
James H. Bellingham has joined the staff of the Institute of Textile Technology, Charlottesville, Va., in the mechanical engineering division. Buckley Whitlatch has become a member of the Institute's division of mechanical engineering.

Tom Mott, Jr., formerly associated with Corn Products Refining Co., has

Mr. Mott

been made treasurer and sales manager of the Dennison Machine Tool Co., Hickory, N. C.

Westinghouse Electric Corp., Pittsburgh, Pa., has announced the election of D. W. R. Morgan, director of

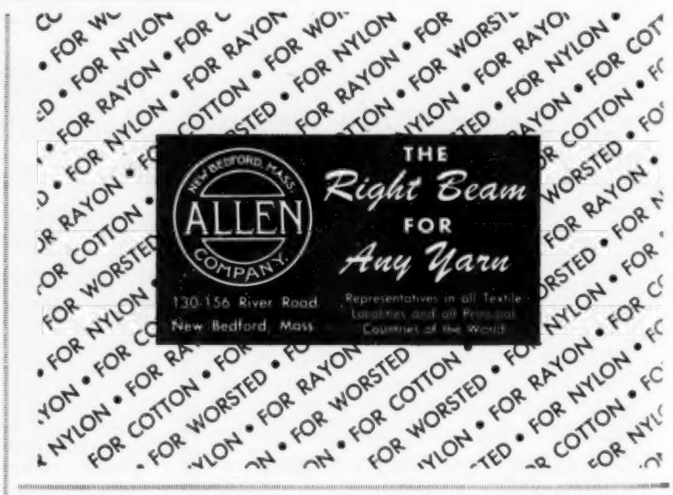


Calender Rolls

Butterworth Calender Rolls are furnished new or refilled for every calendering need — plain calendering, heavy duty friction work, chasing, embossing and schreiner work. Give many extra hours of service. Cannot slip. Will not come loose.

H. W. BUTTERWORTH & SONS COMPANY
Serving the Textile Industry Since 1820
Main Office and Works: Philadelphia 25, Pa.

Butterworth



Quality Shuttles

Watson-Williams shuttles have been the Textile Industry's choice since 1830.

Southern Representatives: WATSON and DESMOND, Clifton E. Watson and S. P. V. Desmond, 118½ West Fourth St., Charlotte, N. C.; John W. LITTLEFIELD, 810 Woodside Bldg., Greenville, S. C.; Walter F. DABOLL, Jefferson Bldg., Greensboro, N. C.
Western Representative: Arthur J. BAHAN, P. O. Box 245, La Porte, Indiana.
Northern Representative: Guy C. BURBANK, 32 Beaconsfield Rd., Worcester 2, Mass.

WATSON-WILLIAMS MFG. CO. Millbury, Mass.

operations at the company's South Philadelphia Works, and John K. Hodnette, manager of the transformer division, as vice-presidents. E. V. Huggins, in charge of the company's legal activities in New York, has been appointed secretary.

Leonard Shapiro, former textile research director of Alrose Chemical

Mr. Shapiro

Co., Cranston, R. I., has joined Synthron, Inc., Ashton, R. I., as research director.

Amalgamated Chemical Corp., Philadelphia, Pa., has made Walter L. McNab sales representative for Tennessee and the northern part of Alabama and Georgia. He will be located in Knoxville, Tenn.

Columbia Cellulose Co., Ltd., Vancouver, B. C., a subsidiary of Celanese Corp. of America, has received from the government of British Columbia a forest management license for extensive tracts of forest land in the province. This is part of the plans of the parent company for the construction of a cellulose plant in Canada. The Celanese Corporation has also announced the election to the board of directors of George H. Richards, vice-president and treasurer.

Brown Instrument Company, Philadelphia, Pa., has plans for a $2,500,000 expansion program which will call for a 60 per cent increase in the present manufacturing space and a proportionate increase in employment and sales.

J. W. Hansen, secretary-treasurer of Iselin-Jefferson Co., Inc., New York, has been elected chairman of the financial group of The Association of Cotton Textile Merchants of New York. Mr. Hansen succeeds Harold R. Elliot of Wellington Sears Company, New York.

E. Philip Kron, with Eastman Kodak Co. before World War II, has become associated as partner of Brookman-Hazel Associates, the Buffalo, N. Y., representative of Liquid Conditioning Corp., Linden, N. J. His work will include field engineering service for Liquid Conditioning Corp. in the Buffalo district.

Oscar Kohorn & Co., Ltd., New York, has announced the conclusion of arrangements with the Aloud Rayon Company, Shanghai, China, for the construction of a Chinese rayon plant. The plant is expected to begin the output of filament rayon early in 1949.

Linder & Company, Inc., Boston, Mass., textile and industrial chemicals, celebrates its one hundredth anniversary this year.

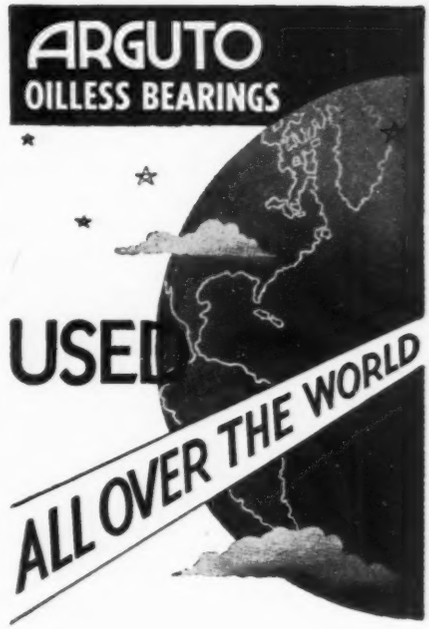
Nopco Chemical Company, Harrison, N. J., has created the office of assistant vice-president and has designated the following men to serve in that capacity: Dr. Charles I. Post, general sales manager of the vitamin division, will be in charge of vitamin division production and laboratories, as well as sales; C. Arthur Larry, former general manager of the vitamin production department, has been placed in charge of the purchasing department for Nopco and all of its subsidiaries; and Dr. Edwin A. Robinson, technical director of the industrial division and in charge of the textile rayon section of the sales department, is now in charge of all laboratories, sales development and market development departments of the industrial division.

Norman Wonnacott, general sales manager in charge of merchandising for the U. S. A. and abroad, has been

Mr. Wonnacott

elected a vice-president of the Willcox & Gibbs Sewing Machine Company, New York.

The Union of Burma has employed Lockwood Greene Engineers, Inc., New York, N. Y., as consulting and supervisory engineers for erection and layout of that country's first cotton spinning and weaving mill, which is to cost approximately $3,000,000 when completed.



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GENERAL ECONOMIC, MANAGEMENT . . .

4. HOW FACTORING CAN INCREASE PROFITS—Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet.—COMMERCIAL FACTORS CORP., New York City.

5. FACTORING AND FINANCING — Illustrated booklet on how factoring works, cost and credit information.—TEXTILE BANKING COMPANY, New York, N. Y.

6. SERVING THE TEXTILE INDUSTRY—Illustrated booklet on services of textile and industrial consultants in assisting mill management.—WERNER TEXTILE CONSULTANTS, INC., New York 17, N. Y.

7. RAYON TELLS ITS STORY TO THE PUBLIC—Folder containing reprints of advertisements explaining some of the many roles in which rayon is serving the American public.—AMERICAN VISCOSE CORPORATION, New York 1, N. Y.

9. TESTING IN MODERN INDUSTRY — This booklet includes many useful tables, conversion factors, equivalent yarn sizes and other information helpful in textile mills. Also describes specialized testing service. Available free to mill men on request.—UNITED STATES TESTING CO., Hoboken, New Jersey.

10. "LABOR AND MANAGEMENT BENEFIT BY INDUSTRIAL ENGINEERING PRINCIPLES" — 8-page illustrated folder outlining principles of industrial engineering as they apply to textiles.—AMERICAN ASSOCIATED CONSULTANTS, INC., New York, N. Y.

11. FLETCHER JUNIOR "SUPER-SELF-BALANCING" EXTRACTOR—Illustrated folder describing this new extractor with the highly efficient self-balancing arrangement which uses steel springs instead of rubber buffers.—FLETCHER WORKS, INC., Philadelphia, Pa.

PLANT AND PLANT MAINTENANCE . . .

102. "TANK TALK"—Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said.—R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

107. FINNELL SCRUBBERS — Illustrated leaflets describing and giving specifications for the new Finnell floor scrubbing machines.—FINNELL SYSTEM, INC., Elkhart, Ind.

108. RIHCO TYPE B HUMIDIFIER HEADS—Bulletin describes new atomizers with construction lessening air consumption. — ALDRICH MACHINE WORKS, Greenwood, S. C.

115. ATOMIZER HUMIDIFIERS—Recent issue of "Parks' Parables" on Turbomatic self-cleaning humidifiers, and automatic regulation. — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

129. BAHNSON CENTRIFUGAL HUMIDIFIER—Bulletin 327 describes this completely self-contained industrial humidifier which requires only water feed and drain and electrical connection to install.—THE BAHNSON COMPANY, Winston-Salem, N. C.

132. ROOF, WALL AND FLOOR INSULATION—Illustrated booklets on uses of PC Foamglas Insulation and describing its waterproof, fireproof and permanent insulating properties. — PITTSBURGH CORNING CORP., Pittsburgh 22, Pa.

135. SAFETY COLOR CODE—How six standard colors can be used to reduce hazards, cut down accidents.—E. I. DU PONT DE NEMOURS & CO., INC., Finishes Division, C44, Wilmington, Dela.

138. MAGNESIUM IN THE TEXTILE INDUSTRY—Illustrated booklet on properties of magnesium for spinning, twisting, winding, knitting machines, looms, beams, spools, bobbins.—ALUMINUM CO. OF AMERICA, Pittsburgh, Pa.

151. INDUSTRIAL BRUSHES—Illustrated Booklet of industrial brushes featuring textile usage on shears, printing machines—also flock, raising and cylinder brushes.—M. W. JENKINS' SONS, INC., Cedar Grove, N. J

152. AIR CONDITIONING FOR THE TEXTILE INDUSTRY—40-page illustrated book covering air conditioning from humidity control to complete refrigerated conditioning with installations, charts, covering ABC's of cooling textile mills.—CARRIER CORP., Syracuse, N. Y.

155. GLASS BLOCKS—28-p. booklet with illustrations, engineering data, patterns PC glass blocks. —PITTSBURGH CORNING CORP., Pittsburgh 22, Pennsylvania.

159. BAHNSON HUMIDUCT SYSTEM — Bulletin 330 describes this unit system of air conditioning for humidifying, cooling, heating, ventilating, filtering, and dehumidifying in any desired combination. —THE BAHNSON CO., Winston-Salem, N. C.

160. INSTALLING MACHINERY WITHOUT LAG SCREWS OR BOLTS — Booklet describing use of UNISORB pads for anchoring all types of machinery. —THE FELTERS COMPANY, Boston, Mass.

162. MODERN METHODS OF TEXTILE FLOOR MAINTENANCE—Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs, as well as preserving textile mill floors.—G. H. TENNANT COMPANY, Minneapolis 11, Minn.

163. LAWLOR FLOOR MACHINES — Illustrated pamphlet containing specifications and describing All-Purpose Floor Machines.—THE SELIG COMPANY, Atlanta, Ga.

166. OAKITE PLANT MAINTENANCE DIGEST—A 16-page manual describing materials and methods for handling 54 recurring maintenance cleaning and related tasks in factories and mills.—OAKITE PRODUCTS, INC., New York 6, N. Y.

167. DU PONT COLOR CONDITIONING FOR INDUSTRY—Booklet, color used to reduce maintenance costs, increase production, curtail fatigue, improve employee morale. — E. I. DU PONT DE NEMOURS & CO. (Inc.), FINISHES DIVISION, Wilmington, Delaware.

168. DIAMOND VULCANIZED FIBRE HOLLOW WARE—Catalog HW-11 describing and illustrating boxes, trucks, cans, barrels, baskets, and trays made of Diamond Fibre for use in textile mills.—CONTINENTAL-DIAMOND FIBRE CO., Newark 11, Del.

170. WHY IT PAYS TO ANCHOR YOUR MACHINE WITH UNISORB—Illustrated booklet discussing control of vibration and noise and how UNISORB reduces maintenance costs.—THE FELTERS CO., Boston, Mass.

171. SULLIVAN T8-WG9—Illustrated bulletin describing the Sullivan line of heavy duty air compressors.—SULLIVAN DIVISION, JOY MFG. CO., Pittsburgh, Pa

172. VENTILATING FANS—Bulletin 3339 gives facts on Buffalo Ventilating Fans. — BUFFALO FORGE CO., Buffalo, N. Y.

175. MOISTURE—Illustrated Folder, "The Yarn Conditioning System for the Textile Industry of Tomorrow."—KEARNY MFG. CO., INC., Kearny, N. J.

176. AUTOMATIC SELF-CLEANING ATOMIZER HUMIDIFIERS—Latest bulletin describing same.—AMERICAN MOISTENING CO., Providence, R. I.

177. DUCTLESS AIR CONDITIONING — Recent bulletin describing same.—AMERICAN MOISTENING COMPANY, Providence, R. I.

179. TOLEDO SCALES — A condensed catalogue which illustrates and describes all of the principal types of weight control equipment used in the textile industry. — TOLEDO SCALE COMPANY, Toledo, Ohio.

180. TANK MAINTENANCE — Illustrated folder describing R. E. McLean's methods of cleaning and painting water tanks and stand pipes. — R. E. McLEAN, Gastonia, N. C.

181. AIR FILTRATION AND DUST CONTROL—24 pages on atmospheric control, including engineering data.—AMERICAN AIR FILTER CO., INC., 275 Central Avenue, Louisville 8, Ky.

183. ELECTROMAGNETS — Folder No. 99 describes and illustrates fire prevention practices for opening and picking by use of high intensity electromagnets and magnetic pulleys.—DINGS MAGNETIC SEPARATOR CO., 509 E. Smith St., Milwaukee 7, Wis.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

210. GOODYEAR MECHANICAL RUBBER GOODS CATALOG—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill.—GOODYEAR TIRE & RUBBER CO., Akron, Ohio.

211. JOHNSON BRONZE CATALOGUE NO. 460—Shows over 850 sizes of cast bronze bushings, 350 sizes of UNIVERSAL Bronze Bars and over 250 Electric Motor Bearings. — JOHNSON BRONZE COMPANY, New Castle, Penna.

212. GATES TEXTILE ACCESSORIES — Showing the increased efficiency and economy to be secured through the use of Gates cone belts, evener belts, card bands and loom binder cushions.—THE GATES RUBBER COMPANY, Denver, Colo.

216. LEATHER BOOKLET NO. 202 — Attractive book illustrating and describing BONDARON Special Tanned Leather as used in various forms such as Check Straps, Solid Round Leather Belting, Flat Belting.—CHAS. BOND CO., Philadelphia, Pa.

218. BALL BEARINGS ON TEXTILE MACHINERY—Catalog 9 gives advantages of ball bearings, describes types, illustrates each type of textile machinery.—THE FAFNIR BEARING CO., New Britain, Connecticut.

230. ALLSPEED DRIVES — This 6-page folder covers features, advantages, available sizes of variable speed drives for the textile industry. Also listed are horsepower and torque data, and unit dimensions.—WORTHINGTON PUMP & MACHINERY CORPORATION, Harrison, N. J.

231. V-BELT ENGINEERING DATA BOOK—Over 50 pages of pertinent engineering information including data on selecting a V-belt drive design of special V-belt drives, numerous standard tables, charts and belt and sheaves list prices. — MANHATTAN RUBBER MANUFACTURING DIV. of Raybestos-Manhattan, Inc., Passaic, N. J.

235. JOHNSON LEDALOYL BEARING BRONZE—Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings.—JOHNSON BRONZE COMPANY, New Castle, Pennsylvania.

236. LEATHER BELTING CALCULATOR—Handy and attractive calculator for determining belt, speeds, horsepower per inch of belt widths, etc., will be sent free on request.—J. E. RHOADS & SONS, Philadelphia, Pa.

244. TEXACO SPINDURA OILS—Folder on lubrication for all types of spindles, based on actual tests.—TEXAS CO., New York City.

246. CUTTING OPERATING COSTS—Nationwide Illustrated Survey showing how American textile mills cut operating costs with Multiple V-Belt Drives.—GATES RUBBER CO., Denver, Colorado.

263. NEEDLE ROLLER BEARING—Catalog Engineering and Application Data Edition 32 contains full data on selection of proper Needle Roller Bearings and outlines uses of such in various commodities including textile uses, types, installations, lubrication, etc. — TORRINGTON COMPANY, Torrington, Conn.

264. NEW DEPARTURE SHOP MANUAL—Illustrated catalog showing ball bearing mounting and maintenance practice. Covers storage, cleaning, lubrication, types of bearings.—NEW DEPARTURE DIV., GENERAL MOTORS CORP., Bristol, Conn.

265. INTERCHANGEABLE BALL BEARING FOR REPLACEMENT—Charts showing numbers used by manufacturers to identify bearing characteristics, also information on specifications.—NEW DEPARTURE DIV., GENERAL MOTORS CORP., Bristol, Conn.

269. LUBRICATION AND MAINTENANCE OF BALL AND ROLLER BEARINGS—Illustrated bulletin describing efficiencies and economies of NON-FLUID OIL for all types ball and roller bearings.—NEW YORK AND NEW JERSEY LUBRICANT CO., New York, N. Y.

270. MANHATTAN FLEXLASTICS — Illustrated booklet describing how flexlastics are used in the Manhattan and Condor line of belting and mechanical rubber goods.—MANHATTAN RUBBER DIVISION, Passaic, N. J.

271. CARDING, SPINNING AND WEAVING LUBRICATION—Informative bulletins describing advantages of NON-FLUID OIL over ordinary lubricants for the lubrication of carding, spinning and weaving machinery.—NEW YORK AND NEW JERSEY LUBRICANT CO., New York, N. Y.

272. HOUGHTON LUBRICATION CHART — Attractive chart listing lubrication recommendations for all mill departments and various textile machines.—E. F. HOUGHTON AND CO., Philadelphia, Penna.

276. SPEED CONTROL—Bulletin 20B6051G describes Texrope variable speed drives. — ALLIS-CHALMERS MFG. CO., Milwaukee 2, Wis.

277. PRECISION COMPOUND AND CHAIN DRIVE—Folder explaining more profitable operation of roving frames.—PRECISION GEAR AND MACHINE CO., Charlotte, N. C.

278. ROLLER BEARINGS—New 35-page Hyatt handbook, "Guide Lines," is a guide to the proper application of cylindrical roller bearings in machinery and equipment of all types.—HYATT BEARINGS DIV., General Motors Corp., Harrison, N. J.

279. OILITE BULLETIN—Discussion of uses of oil-cushioned, self-lubricating bearings in product design and maintenance is contained in this illustrated bulletin. A wide range of machine parts is offered.—AMPLEX DIV., CHRYSLER CORP., Detroit 31, Mich.

280. BALL BEARING PILLOW BLOCKS AND FLANGE CARTRIDGES—Folder LAK contains informative text on ball bearing pillow blocks and flange cartridges incorporating the Fafnir Wide Inner Ring Bearings suitable for new as well and replacement applications in textile machinery.—THE FAFNIR BEARING CO., New Britain, Conn.

281. MULTI-V-DRIVES—16-page bulletin on Q-D (quick detachable) heavy sheaves. Descriptive information on design, application, stock sizes, and 75,000 V-Drive combinations available.—WORTHINGTON PUMP AND MACHINERY CORPORATION, Harrison, N. J.

INSTRUMENTS, STEAM SPECIALTIES . . .

301. JOHNSON ROTARY PRESSURE JOINTS—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices. — THE JOHNSON CORP., Three Rivers, Mich.

307. THERMOMETER AND PRESSURE GAUGES—Catalog 6705-R and 6706 give data on both circular and rectangular case pressure type thermometers for indicating, recording and controlling processing operations in textile industry.—BROWN INSTRUMENT COMPANY, Philadelphia, Pennsylvania.

311. PIPING POINTERS—Industrial maintenance book covering installation and handling of piping, valves, fittings. Well illustrated, practical tips. — CRANE CO., Chicago, Ill.

314. MOISTURE CONTENT CONTROL — Bulletin F-1705-1 giving details of features and benefits of moisture equipment control for slashers and textile applications. — BARBER-COLMAN CO., Rockford, Ill.

315. CONTROL INSTRUMENTS FOR TEXTILE PROCESSES—32-page illustrated booklet describing controls for such processes as slashing, dyeing, bleaching, kier boiling, drying, air-conditioning, etc. —BROWN INSTRUMENT CO., Philadelphia, Penna.

316. HYDRAULIC POWER UNITS—Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc.—E. F. PERKINS & SON, INC., Holyoke, Mass.

312. POWELL VALVES FOR CORROSION RESISTANCE—20-page booklet which briefly describes and illustrates the very complete line of Powell valves available in a large variety of metals and alloys to handle all corrosive fluids—to help solve flow control problems where corrosion may be encountered.—THE WILLIAM POWELL CO., Cincinnati 22, Ohio.

320. OAKITE POWER PLANT DIGEST—A 20-page manual describing materials and methods for handling 71 cleaning, degreasing, descaling, derusting, paintstripping and related operations encountered in power plants.—OAKITE PRODUCTS, INC., New York 6, N. Y.

321. RED-RAY BURNERS — Bulletin describing use of Red-Ray Burners in preheating and partial drying to increase capacity of frame.—RED-RAY MFG. CO., New York, N. Y.

322. DIAMOND SWING JOINTS—4-page illustrated folder describing the Diamond line of ball, swing and revolving joints for use on any system handling air, gas, steam, oil, or any fluid where reflexible connection is needed. — DIAMOND METAL PRODUCTS CO., St. Louis, Mo.

323. TENTER FRAME DRYER—Illustrated folder describing the features and operating principle of newly designed, high speed tenter frame dryer.—NATIONAL DRYING MACHINERY COMPANY, Philadelphia 33, Pa.

CARDING, SPINNING, WINDING, ETC. . . .

401. LUMMUS DUSTLESS, STEEL, BLENDING FEEDERS—Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking. — ALDRICH MACHINE WORKS, Greenwood, S. C.

402. AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS—24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning, twisting, winding and warping machines. Also for cleaning monitors and card room ceilings.—THE AMERICAN MONORAIL CO., Cleveland, Ohio.

407. CARD GRINDER INFORMATION—Folder on care of card grinders, part replacements, etc.—B. S. ROY & SON CO., Worcester, Mass., and Greenville, South Carolina.

409. ROTO CONER—Bulletin describing Universal rotary traverse winder, known as the Roto Coner, producing open wound cones for knitting and warping; parallel tubes for package dyeing, twisting, and sale yarn.—UNIVERSAL WINDING CO., Providence, Rhode Island.

413. SONOCO PRODUCTS—A 60 page illustrated booklet giving descriptions, specifications and charts of the many Sonoco products, including bobbins, cones, tubes, cork cots, roving cans, spools, rolls, etc.—SONOCO PRODUCTS CO., Hartsville, S. C.

416. THE BRIEF SAGA OF THE RING TRAVELER—An interesting history relative to the ring traveler, which is in reality the basis of the spinning frame, John Thorpe's invention of the ring traveler, the development of the spindle, and the invention of Rabeth's Bolster type spindle are covered.—NATIONAL RING TRAVELER CO., Pawtucket, R. I.

419. TEXTILE APRONS—Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery.—TEXTILE APRON COMPANY, East Point, Ga.

421. AUTOMATIC WINDERS — Folder describing latest winding equipment with full automatic operation. Only one automatic head for up to 100 spindles.—ABBOTT MACHINE CO., Wilton, N. H.

422. MODERN TEXTILE ROLL COVERINGS—Illustrated booklet on roll covering problems with chart on correct usages. Also data on Acotex long draft aprons.—ARMSTRONG CORK CO., Industrial Division, TEXTILE PRODUCTS SEC., Lancaster, Pa.

423. TEXTILE SHEET METAL PRODUCTS—Folder on cylinders, card screens, licker-in screens, repair work. — JENKINS METAL SHOPS, INC., Gastonia, North Carolina.

428. PNEUMATIC ROLL PICKER—Attractive bulletin descriptive of the "Amoskeag" roll picker that removes fly and lint from the top rolls and other drafting elements in spinning and roving frames.—M-B PRODUCTS, Detroit 26, Michigan.

429. HAVE YOU CHECKED YOUR DRAWING SLIVER RECENTLY?—Folder on drawing and drawing rolls.—MEDLEY MANUFACTURING CO., Columbus, Ga.

431 HYGROLIT YARN CONDITIONING SYSTEM—General description of conditioning cotton, spun rayon, woolens, worsteds for twist setting, lubrication, moisture retention.—KEARNY MANUFACTURING COMPANY, INC., Kearny, N. J.

434. PRECISION TEXTILE WINDING—Bulletin on Kiddie Tension and Density Control for winding rubber cores. — WALTER KIDDIE & CO., INC., Belleville, N. J.

433. AUTOMATIC TRAVELING CLEANERS—Recent issue of "Parks' Parables" on automatic cleaners for spinning, warping, twisting.—PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

434. WINDING MACHINES—WORK LOAD CALCULATIONS—Reprints of series on winder operations from labor standpoint.—UNIVERSAL WINDING CO., Providence, R. I.

436. MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER — Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording.—SCOTT TESTERS, INC., Providence, R. I.

437. SPINDLE TAPE LACING EQUIPMENT—Circular No. 54 illustrating and describing the Clipper method of joining spindle tapes.—CLIPPER BELT LACER CO., Grand Rapids 2, Mich.

441. SADDLES—Leaflet showing a few of the over 400 different types of saddles for both conventional and long draft spinning and roving frames.—DIXON LUBRICATING SADDLE CO., Bristol, Rhode Islan t

441 SKF BALL BEARING TENSION PULLEY FOR SPINNING FRAMES — Attractive illustrated folder outlining the value of anti-friction bearing Tension Pulleys for all types of spinning frames.—SKF INDUSTRIES, INC., Philadelphia, Pa.

445. COMPARATIVE YARN TABLE—Chart giving woolen number (cut and run system) also cotton worsted and metric system; also, Comparative Rayon Denier Yarn Table.—VICTOR RING TRAVELER CO., Providence, R. I.

444. SOL LUSTRE—Attractive illustrated booklet describing Houghton's soluble softening and conditioning oils for textile fabrics and yarns.—E. F. HOUGHTON AND CO., Philadelphia, Penna.

445. ROLLER BEARING SPINDLES—Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described.—THE MARQUETTE METAL PRODUCTS CO., Cleveland, Ohio.

443. FOSTER BULLETIN A-95 — Describes the modern Foster Model 102 winder that eliminates ribbon wind. — FOSTER MACHINE CO., Westfield Mass.

450. IONOTRON STATIC ELIMINATORS—A 4-page, illustrated catalog section describes a new static eliminator which operates without electric power or physical contact. There is no operating expense.—U. S. RADIUM CORP., New York 7, N. Y.

452. DEVELOPMENTS IN WARP SIZING—Technical bulletin describing the successful new development of applying a warp lubricant separately from and subsequent to sizing with starch and in the same operation. This patented process involves the use of a Warp Lubricator Unit and SLIX, a new one-piece liquid sizing material.—SOUTHERN SIZING CO., Atlanta, Ga.

453. CHAPMAN STATIC NEUTRALIZER — The "how" and "why" of this unit are covered in this bulletin, plus the factors affecting successful application to cotton cards, woolen cards, and cotton drawing frames.—CHAPMAN ELECTRIC NEUTRALIZER CO., Portland, Maine.

WEAVING, SLASHING . . .

502. TEXTILE COUNTERS—Catalog T37 describing pick counters for looms, hank counters for spinning, yardage counters for cloth loom, etc.—VEEDER-ROOT, INC., Hartford, Conn.

510. THE ROMANCE OF PRAIRIE GOLD—Attractive illustrated book which tells the story of corn and the uses of corn products in industry.—CORN PRODUCTS SALES CO., New York, N. Y.

512. BRIGHT SPOT IN THE PRODUCTION PICTURE—Folder on more loom speed through Hunt loom spreaders.—HUNT MACHINE WORKS, INC., Greenville, S. C.

513. SEYCO PENETRANTS FOR YARN CONDITIONING—Folder describing the scientifically formulated Seyco sizing. — SEYDEL-WOOLLEY & CO., Atlanta, Ga.

514. SLASHER HOODS — Pamphlet describing drip-proof slasher hoods for cotton or rayon slashers. Hood or sidewall exhaust.—WOLVERINE EQUIPMENT CO., Cambridge 42, Mass.

515. TEXTILE COUNTERS—Catalog No. 50 illustrating and describing complete line of Productimeter Loom Pick Counters; Hank Counters; Yardage, Electric and Predetermined Counters; Tachometers, etc. — DURANT MANUFACTURING CO., Milwaukee 1, Wisconsin.

516. WEAVE ROOM ACCESSORIES—Weave room accessories catalog and literature on new plastic, bronze bearing sheave, which solves a troublesome weave room problem.—EMMONS LOOM HARNESS COMPANY, Laurence, Mass.

517. LOADING SYSTEM—Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices.—THE FOXBORO COMPANY, Foxboro, Mass.

518. NIAGARA TWIST-SETTER—Folder describing the revolutionary Niagara Twist-Setter which has no moving parts. The yarn is sprayed from all sides to afford maximum uniformity.—SEYDEL-WOOLLEY & CO., Atlanta, Ga.

519. WOODEN BEAM HEADS, WARPER BEAMS, AND WARPING MACHINERY FOR ALL FIBERS—62-page illustrated booklet descriptive of and giving specifications for the Allen line of beam heads, warper beams, warping machinery, stop motions and cloth rolls.—ALLEN COMPANY, New Bedford, Mass.

520. PNEUMATIC LOADING SYSTEM—Bulletin 418 contains installation photo, features, specifications and prices for pneumatic loading system for Charles B. Johnson Machine Works slasher squeeze rolls.—THE FOXBORO COMPANY, Foxboro, Mass.

521. STEEL WARP BEAMS—20 page catalog No. 45 illustrating Standard and Special Purpose Warp Beams for the weaving industry, both broadloom and narrow fabrics. Also Textile Machinery Specialties.—MILTON MACHINE WORKS, Milton, Pa.

522. STARCH STABILIZER — Leaflet describing new materials to prevent jelling and to improve the cold fluidity of starch dispersions.—R. T. VANDERBILT COMPANY, New York 17, N. Y.

524. JOHNSON WARP SIZER—12 page fully illustrated booklet, describing the 7 cylinder sizer with stretch indicator and finger-tip control of stretch. A point-by-point analysis. — CHARLES B. JOHNSON MACHINE WORKS, Paterson, N. J.

525. GATES LOOM ACCESSORIES — Catalogs MRG-418, MRG-421, MRG-422 describe the advantages of lug straps, harness straps and drop box pickers made from a remarkable new material called Tex-Hide. Catalog MRG-419 describes the advantages of a new "Tractive-Rib" take-up roll covering.—GATES RUBBER CO., Denver 17, Colorado.

527. COTTON SLASHERS—Photographs and detailed information are contained in this 16-page folder which describes the new WPF&M Slasher. Also included in the folder are descriptions of three types of creels and head ends and other advanced optional equipment.—WEST POINT FOUNDRY & MACHINE COMPANY, West Point, Ga.

528. PARTS CATALOG FOR WPF&M SLASHERS, SIZE KETTLES AND PUMPS—This 42-page illustrated catalog of parts contains exploded views and part numbers for quick identification.—WEST POINT FOUNDRY & MACHINE COMPANY, West Point, Ga.

DYEING, FINISHING, CLOTH ROOM . . .

602. ALUMINUM IN THE CHEMICAL INDUSTRY—Published by Aluminum Company of America. Seventy-eight pages. Text and illustrations covering adaptability of aluminum and aluminum alloys to chemical industry applications and characteristics governing recommended uses. — ALUMINUM COMPANY OF AMERICA, Pittsburgh, Pa.

610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY—Illustrates descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Preboarding and Automatic Boarding Machines for hosiery.—PROCTOR & SCHWARTZ, INC., Philadelphia, Pa.

611. BRUSHING AND SHEARING MACHINES—Illustrated literature on the new Hermas Brushing Machine for use light sheeting to heavy ducks; also on Hermas AV Shears.—HERMAS MACHINE CO., Hawthorne, N. J.

613. RADIANT HEAT IN TEXTILE INDUSTRY—New illustrated book on uses of radiant heat, data on fuel consumption, evaporation, etc.—RED-RAY MFG. CO., New York, N. Y.

614. STRIPS IN ROLLS—Form No. CF-642 illustrated folder showing over 25 slitters and roll winders for textile use.—CAMERON MACHINE CO., Brooklyn, New York.

615. ENGINEERING PROPERTIES OF MONEL—Technical Bulletin T-5, giving detailed information on strength and ductility, working properties, resistance to various types of corrosion and other data on Monel Metal. — INTERNATIONAL NICKEL CO., INC., New York, N. Y.

617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING—Illustrated folder describing the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation.—TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

619. 3 FOR 5—Illustrated folder describing features of Blickman stainless steel Dyeboxes. — S. BLICKMAN, INC., Weehawken, New Jersey.

620. DYE HOUSE VENTILATION—Pamphlet describing stainless steel exhaust systems for piece dye kettles. Equipment for stock dye houses. Tempering supply air units and controls.—WOLVERINE EQUIPMENT CO., Cambridge 42, Mass.

621. INFRA-RED RADIANT HEAT GENERATORS—Illustrated bulletins on infra-red technology and applications throughout Textile pre-drying, drying, polymerizing, printing, and other heat-processing operations. — CARBOMATIC CORPORATION, New York, N. Y.

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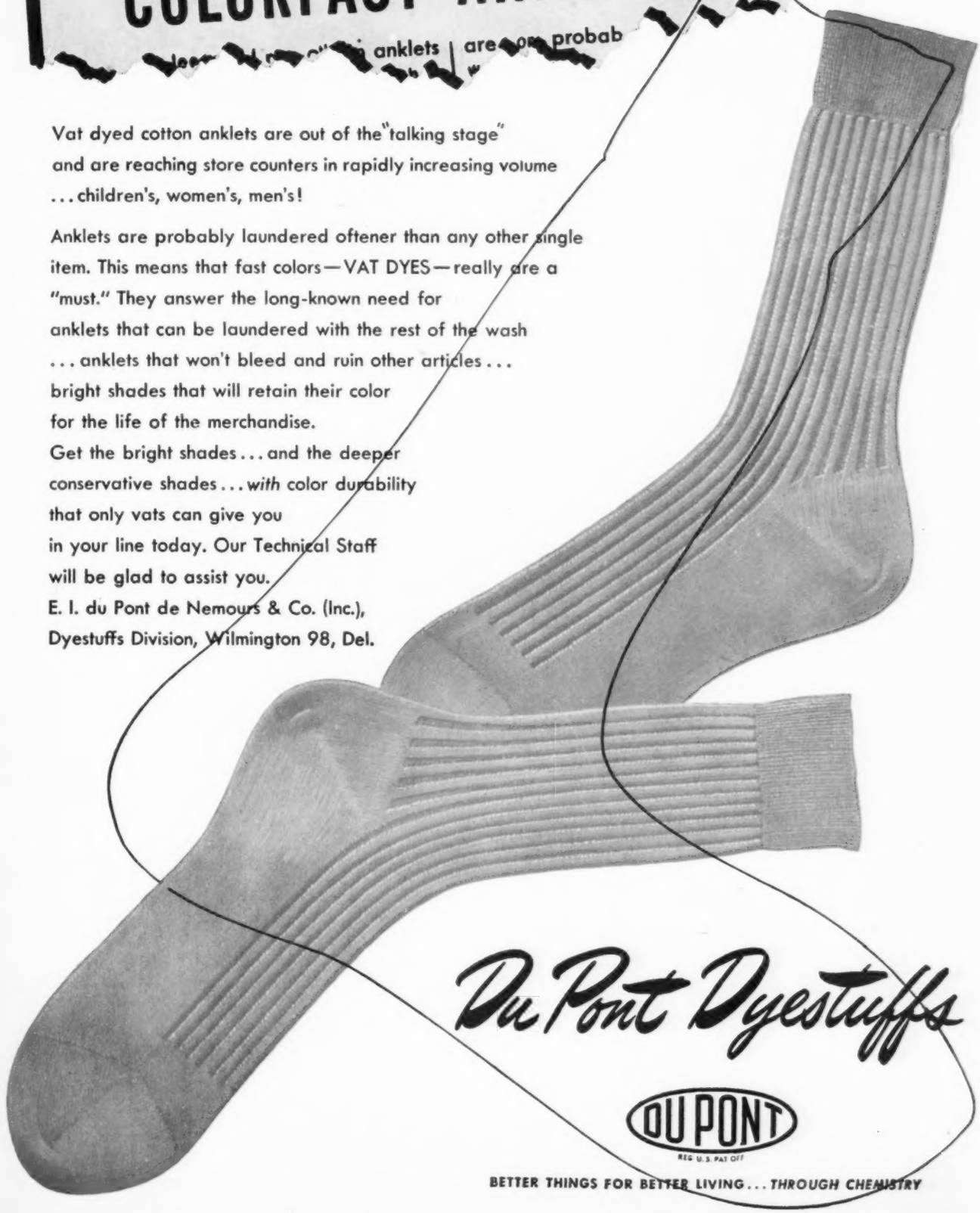

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Engineering Stressed in Modernization at Durham Hosiery Mills

By ROY A. PALMER
Duke Power Co.

AN EXTENSIVE modernization program has been completed at the full-fashioned hosiery plant of the Durham Hosiery Mills, Durham, N. C. In a five-story reinforced concrete building, new machinery, new lighting, complete rewiring, air conditioning throughout, and sealing the building to make it practically windowless were included in the program.

The building was constructed in 1920, and at that time was considered one of the finest industrial buildings in the southeast. Because of its sturdy construction and with the features added in modernizing, it will still retain claim to that title. Everything possible has been done to contribute to quality in manufacturing and the finest working conditions for employees.

Engineers who designed the building had the foresight to include a wiring shaft which is located in one corner of the building. It runs through the five floors and terminates in a switchboard room on the first floor. The old wiring was well designed also, no feeder changes being necessary throughout the years until today's modernization program. The wiring shaft as well as the old feeders have been utilized to excellent advantage in the rewiring job.

In 1946 new full-fashioned 51 gauge knitting machines were purchased. These machines require a motor load two to three times that of the old machines. New wiring was necessary, including new power feeders. The lighting system was entirely inadequate. The general lighting consisted of 300-watt lamps in prismatic glass reflectors spaced 20 feet apart, suspended about 4 feet from the ceiling. Over the full-fashioned machines, 75-watt lamps in deep bowl reflectors were suspended about 4 feet above the needles and spaced about 6 feet apart. The old fixtures have been replaced with fluorescent lighting equipment which represents an increase of 60% in the lighting load.

The old switchboard was replaced with a modern, totally enclosed circuit-breaker type board. This board contains three 800-amp and one 400-amp circuit breakers for power and two 600-amp circuit breakers for lighting. The two top floors of the building house the

Top, a view of the non-glare lighting installation in the looping and seaming department of the Durham Hosiery Mills, Durham, N. C. Bottom, the inspection department where operative efficiency has increased since the changes have been incorporated. Note the old prismatic glass lighting units which have been replaced by the fluorescent lighting system. The new system provides 75 to 100 foot-candles on the work.

Two new full-fashioned machines are shown here with emphasis on good lighting which is installed throughout the plant.

full-fashioned knitting machines, the 4th floor requiring 175 hp and the 5th floor 250 hp for their operation.

The service entrance consists of six 750,000 cm cables in two 3½-in. conduits which lead to the power and lighting circuit breakers. Feeders are run from these breakers up the wiring shaft. All feeders are 500,000 cm asbestos wire on cleats, two sets similarly for wiring. These feeders are tapped on each floor to switches mounted on the outside of wiring shaft, making them easily accessible.

Air Conditioning

The management decided to air condition the entire building. From the electrical standpoint, this required a new, separate service from the transformers to the switchboard. The fan room, which formerly supplied ventilation only, required 75 hp, but with the added job of distributing temperature and humidity controlled air throughout the building, 100 hp is required.

The installation of air conditioning in such a large area obviously required maximum efficiency and utilization of controlled air. The building was originally equipped with large window areas with steel casement, part of which could be opened for ventilation. Large glass areas increase exposure and resulting heat losses. It was therefore decided to remove the windows and brick in that space. Engineers recommended that a small window be left in each block or panel to avoid the psychological effect on the part of operatives of not being able to see the outdoors. Thermopane windows were used in these small areas for this reason.

In effect, the building can be said to be practically windowless. This not only reduces heat losses, thereby reducing the capacity necessary for air conditioning, but also it reduces maintenance of glass areas. The work rooms in general present a better appearance, and distracting noises from the railroad nearby as well as street noises are very greatly reduced.

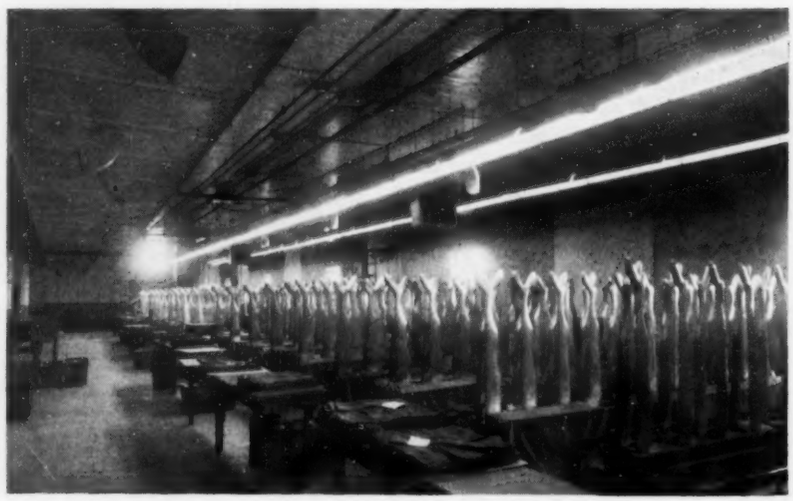
Lighting Level

The lighting system is designed to provide a high level of illumination wherever the tasks require good vision. Over the knitting machines 65 to 100 foot-candles are provided. Similarly, in the inspecting, looping, and mending areas the illumination measures 75 to 100 foot-candles.

Foremen say that operatives have expressed extreme pleasure with the new lighting system. Complaints of headaches which previously occurred at frequent intervals have disappeared. Today, employees work under adequate lighting conditions, with uniform, comfortable temperature and humidity. Dust, dirt, and noises from the outside are eliminated. A loudspeaker system provides music for four half-hour periods during the day. This system is also used for calling key personnel and for announcements of a general nature.

The entire wiring system was designed by James W. Vaughan, The Modern Electric Company, Durham, N. C.

A view of the boarding department showing part of the new lighting and air conditioning systems.



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Dye Streaks on Tubular Goods

By ALAN BLUE

THE PROBLEM of streaks occurring in dyed tubular knit goods and the solution related here was an actual experience in the dyeing department of a plant. This man tells his story with the idea in mind that the facts in this case may have some relation to a similar problem in other dyehouses.

A DYER'S life may not be the easiest in the world, but it is at least not monotonous. Problems are constantly arising which demand the dyer's attention and keep him busy finding the causes for each trouble as it arises. The following problem is taken from an actual plant's experience and is published in the hope that it might someday help some dyer faced with a similar problem.

This particular problem concerns dye streaks in tubular knit goods, dyed in the piece with fast to light direct colors. The shades were light and pastel shades of yellows, blues, tans, reds, and greens. The streaks usually ran diagonally across the goods and seemed to be worse on the ends of the pieces than in the middle. They varied from rather dark streaks to faint shadows which were visible only when the cloth was held so that it could be seen at an angle.

The lightest of the streaks were visible only after the cloth was dried, but the worst streaks could be detected while the cloth was still wet. These streaks seemed to be no respector of shades as they were found in all the shades dyed. Approximately twenty-five per cent of the lots dyed were streaked and had to be reworked.

The pieces were approximately eighty yards in length, and the dyeing machines used were the conventional type of open reel machines of stainless steel. A brief description of the dyeing procedure is as follows:

Load goods in tub with penetrant and heat to boil. Run 10 minutes.
Give running wash until cool and drop bath.
Refill and add dyeing assistant and sodium peroxide.
Run 10 minutes cold.
Add dye in four portions and run 10 minutes.
Heat slowly to boil and run 30 minutes.
Add salt. (Salt added very slowly with steam off.)
Run 30 minutes longer.
Give running wash until cool.
Drop bath, give wash, and unload.

Color Migration Considered

Our first deduction was that the light streaks and shadows might be caused by color migration while the goods were lying in the boxes before extraction and drying. To check this we gave several lots a salt rinse before unloading. We also extracted and dried these lots immediately after dyeing. These dyeings were the same as before.

We next tried changing the dyeing assistant, because we thought it might not be doing its work well. We tried many types and kinds of assistants with no apparent difference in results. We also tried increasing the amounts used, but this did not improve our dyeings.

Changed Dyeing Procedure

Our next step was to change our dyeing procedure. With different lots we tried allowing a longer time in the bleach before adding the dyestuff, adding the dye in smaller portions at 120 deg. F, and 140 deg. F, adding the salt in smaller portions and at different temperatures, and increasing and decreasing the time of dyeing. None of these changes gave us any better dyeings.

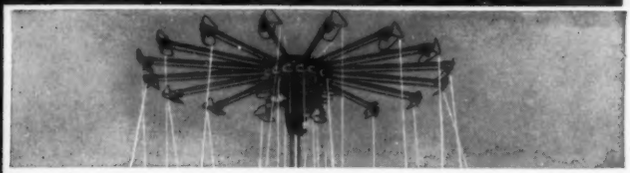
We then decided to discontinue bleaching and dyeing together, but to give the goods a prebleach and dye separately. The goods were wet out, bleached, washed well, and dyed, starting the dyeing cold. This did not correct the trouble, and we thought that the goods had too much alkalinity left in them after the bleaching. Therefore, we tried neutralizing the goods after the bleaching. We also tried neutralizing the caustic in the peroxide in the bleaching operation. Neither of these methods gave us the desired results.

Check on Water

We had kept a close check on our water all along, and it seemed to be perfectly satisfactory for dyeing purposes. However, a water problem can be very elusive and hard to run down. We were drawing our water from a large lake, flocing it with soda ash and alum, filtering it through a sand filter, and correcting the pH of the finished water with soda ash. We made many checks of our water, paying particular attention to the tannic acid, because we thought it might be picking up enough tannic acid to give us trouble. A representative analysis of our water is as follows:

WILDMAN MULTIPLE FEED

WILDMAN MULTIPLE FEED RIB MACHINE



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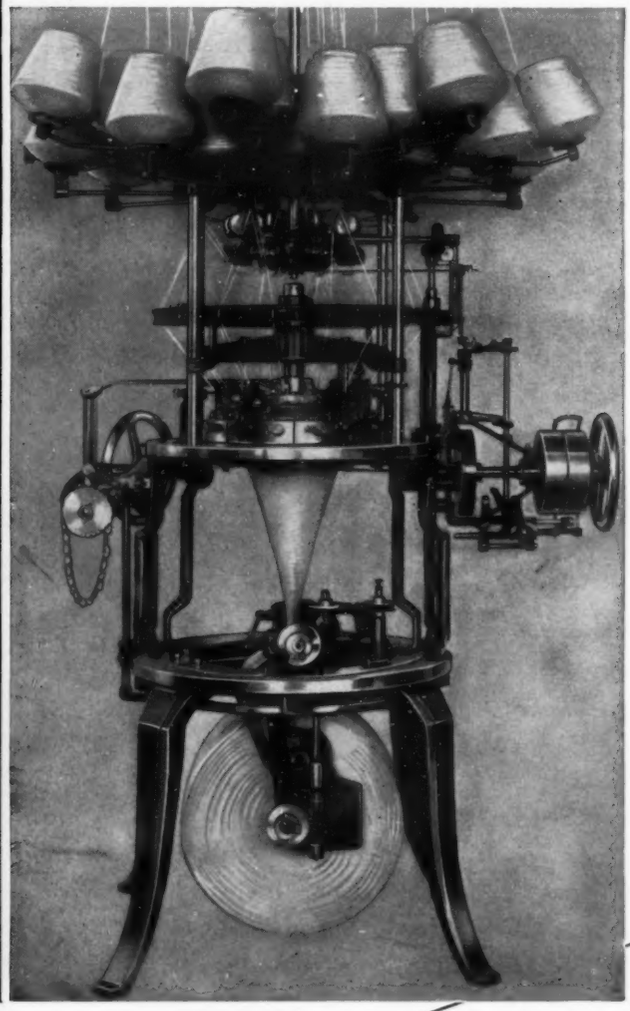


THE WILDMAN MULTIPLE-FEED RIB MACHINE offers many exclusive mechanical advantages that are reflected not only in a far greater pattern variety but in marked product improvements. Here are just four of these advantages...

1 **Yarn is fed under even tension**—furnishing wheels keep stitches even and garment of uniform length.

2 It is not necessary to stop machine to put on new cones—the start of one cone may be tied to the end of another.

3 **Belt-driven take-up.** Ball and roller bearing throughout—the most sensitive and trouble-free take-up ever built into a circular knitting machine. No jerky stops and starts.

4 On the same floor space that an 8-feed machine occupies, this Wildman will DOUBLE PRODUCTION or BETTER with a power increase of only about one-third.

WILDMAN MFG. CO., Norristown, Pa.

	Parts per Million
Total Solids	67.0
Organic Matter	14.1
Mineral Matter	52.9
as follows:	
Silica	5.9
Iron	0.3
Aluminum	0.6
Manganese	None
Calcium	2.3
Magnesium	1.1
Sodium	7.4
Potassium	1.8
Bicarbonate	17.3
Sulphate	8.4
Chloride	5.4
Nitrate	2.4
Phosphate	Trace
Free CO_2	2.8
Hardness (total)	10.6
Tannic Acid	Trace
pH	7.8

An examination of this analysis shows that the organic matter is perhaps higher than it should be, and the iron content is a little higher than would be desirable. However, nothing is shown which would definitely point to the trouble we were having. We gave our water plant closer supervision to be sure that the water was running as consistent as possible. We also made some improvements in our filtering system.

Lot Sizes Changed

Our next consideration was that we were overloading our reel machines. We cut the size of our lots from 20 rolls to 16 rolls, but this did not correct the trouble. In line with this thought, we tried several batches with less yards on each roll because the length of the pieces might be keeping us from getting level dyeings. These batches were about the same as we had been dyeing.

We noticed one morning that one of our dyeings had a good head of foam when it was started. This foam gradually disappeared as the bath was heated. When the bath reached the boil, the foam had entirely disappeared and the bath looked dead. This turned out to be a very streaky dyeing. We observed another dyeing made the same day. After this bath reached the boil, it still had about the right amount of foam. This was a perfect dyeing. We then decided that our trouble might be due to something coming over in the steam.

Boiler Room Checked

A check into our boiler room showed that the boiler feed water was obtained from a tank into which all return lines were run. This was supplemented by a line from our finished water storage tank. However, a closer investigation revealed that this make-up water was sometimes insufficient to keep the boilers operating, and at times the fireman was using a steam injector to draw raw water into the boilers. This accounted for the surges of materials carried over in the steam which gave us the bad dyeings on certain lots.

Trouble Corrected

We washed out our boilers and installed a larger line from the filtered water tank to the make-up tank. We removed the steam injector so that it was impossible for the fireman to use anything but finished water in the boilers.

This corrected our trouble and no bad dyeings were made following these changes.

Photo courtesy, H. W. Butterworth & Sons Co.

Shown at the right is a stainless steel dye beck used for dyeing piece goods such as tubular knit fabrics referred to in this article.

Dependable Sewing

Knitted and woven undergarments, slips, brassieres, panties and nightgowns are smarter looking and more dependable when stitched on Willcox & Gibbs Machines.

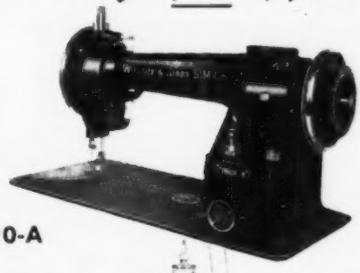
This beautiful slip, as well as a wide variety of other modern ladies' undergarments by Vanity Fair Mills, are finished almost exclusively on "W&G" Machines.

"W&G" Machines have been standard equipment in Vanity Fair establishments for many years.

There are "W&G" Machines especially adapted to *your* particular requirements.

The "W&G" Machine Catalogue, Form 769, illustrates and describes these machines in detail.

Send for your copy today.



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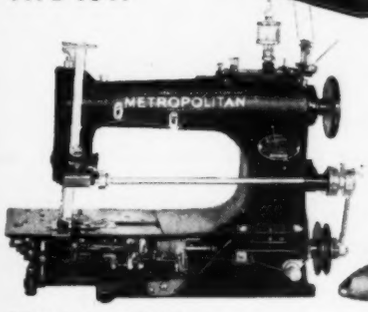

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WILLCOX & GIBBS SEWING MACHINE CO.

214 WEST 39TH ST., NEW YORK 18, N.Y.

Special Purpose Tools for Hosiery Machine Fixers

By ERNEST BRIDGES

THREE MORE handy tools for hosiery machine fixers are described in this, the third article by Mr. Bridges. A special end mill for facing either end of a Komet lifter hub was described in the article appearing in the March 1948 issue. In the May issue, a wrench for tightening the sinker sleeve nut was described.

SEVERAL unique and useful tools for Komet fixers can be purchased from tool suppliers. A steel rule which combines six tools in one is shown in the accompanying illustration. Every machine fixer has at least one steel rule in his tool kit, and some have two or more, including flexible steel rules. For the most part, those commonly used are single purpose rules, and their use is confined to a limited number of operations or purposes.

The rule shown in Fig. 1 is a Starrett six-inch hook-end rule and is equipped with a No. 22-c drill point gauge. It is a combination drill point gauge, hook rule, plain rule, depth gauge, T-square, and slide caliper, all in one tool. The rule has 1/64 and

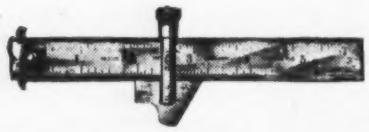

Fig. 1. The Starrett six-inch hook-end rule equipped with a No. 22-c drill point gauge.

1/32 inch graduations on one side, 1/16 and ⅛ inch graduations on the other, and 1/32 inch graduations on both sides of one end. Many jobs are made more difficult without the use of this tool.

The draw thread feed cam on Komet machines should be practically flush against the cylinder when it is fully in position. If you find a machine on which the draw thread feed cam does not go in far enough, you may decide that the bolt slide cam is worn and must be replaced in order to overcome slider-butt breakage trouble. This is one cam where 1/64 of an inch on the short side will cause trouble, and 1/64 of an inch on the long side is just as bad. It must be set right.

When a new cam is procured from the supply room and is compared with the old cam, it will be found ⅛ inch or more longer than the old one. The factory made the cams longer than the finished length because they must be fitted individually to each machine.

The cam can be measured in several ways, but if you have a combination rule similar to the one shown, it may be used as a slide caliper. Set it for the length desired, grind the slide cam to fit the setting and you are through. No guess work is necessary, and the slide cam does not have to be removed and replaced several times in order to place it right.

Fig. 2. The Starrett No. 46 depth gauge.

There are other slides, cams, cam followers, etc., which must be of accurate length or thickness. This combination rule is excellent for checking all sorts of close measurements, and it would be difficult to enumerate all its uses.

Another handy tool which can be purchased from a tool supply house is the Starrett depth gauge, No. 46 (shown in Fig. 2). This tool fills numerous needs, and by making a slight addition it can be converted into a useful and dependable back-picker gauge. Back pickers, like many other Komet parts, must be fitted to individual machines, and measuring the correct length from the pivot pin hole to the front is very important.

As a rule, when back pickers must be replaced, a lip will be broken off, chipped, or damaged. If the fixer has a tool or gauge to get an accurate measurement from the pivot pin hole to the front end of the picker, he will have little difficulty in fitting a new picker. If he does not have some means of getting accurate measurements, it becomes necessary to grind, polish and test once, twice, and possibly three times. Very often he may find that on the third try he ground off a bit too much and

She was the Pride of the Oyster Fleet

Down at the Cape, we like to remember the summer of 1925. It was the year that Captain Weston first sailed the Suzy Q, gift of some of the grateful summer people.

It was good to see Cap'n Weston first out to the oyster banks, with a crew that fought to sail with him.

For three years the Suzy Q was the pride of the oyster fleet. Then someone built a faster boat . . . and someone built a bigger boat . . . and someone installed power winches . . . and someone added better nets.

We talked to Cap'n Weston about buying a fast, modern boat. Then we learned that he had no fund for *depreciation* . . . just a fund for normal *repairs.*

Look at the Suzy Q today and you'll see what we mean. She's in good repair for her age but she can't compete with the newer, faster boats even if her Cap'n is the best-liked skipper on the Cape.

Take a look at your last Financial Statement: Are you carrying the money that you charge off for Depreciation as a "current" or as a "fixed" (plant) asset? . . . Is it money in the bank or is it money that you owe to yourself.

Write today on your business stationery for your copy of "Good Housekeeping in Business" —a pamphlet which presents what we believe to be a *logical* basis for handling depreciation money. We will be glad to send it to you.

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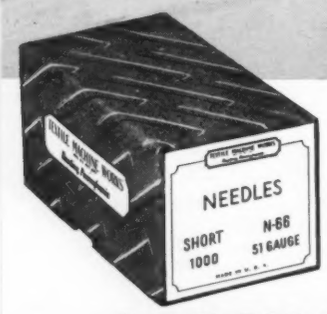

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And you get the same outstanding performance in every Textile Needle because of Textile's quality controls—automatic controls, electronic controls, controls that do not relax until the needles are in position in your knitting bar.

Textile Spring-Beard Needles are right—in *every* detail.

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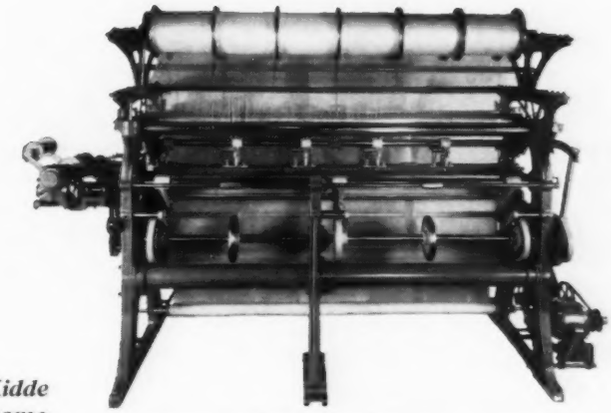


For Better Quality and Higher Production, investigate this machine

Finer, tighter lace edgings can be produced on the *Kidde* Knitter than were possible on prewar machines of the same type. Five or six guide bars can be used to produce edgings of a quality that are much in demand. Even on six guide bar work production speeds of 150 courses per minute or better are being maintained.

That's a substantially higher rate of production than has ever been attained on this type of machine before—but it's *typical* of the high, *sustained* speeds possible with the *Kidde* Knitter. A new drum drive, a new motion on needle bars make these speeds possible—and the machine is designed throughout to withstand them.

You'll find the *Kidde* Knitter adaptable to practically any type of yarn, thread or elastic—quickly and easily set up for simple or intricate patterns.

Use the Kidde Knitter on these fabrics too

ELASTIC FABRICS for corsets, girdles, brassieres. DRESS FABRICS. DISH CLOTH MATERIALS. CURTAINS. NARROW FABRICS: edgings, braidings, laces. SHOE CLOTH. KNITTED OUTERWEAR FABRICS for sweaters, polo shirts.

Write for free literature on the Kidde Knitter—or, better still, see for yourself what it can do. A machine is in operation at our Bloomfield plant—write for an appointment for a demonstration.

The word "Kidde" is the trade-mark of Walter Kidde & Company, Inc., and its affiliated companies.

Kidde Knitter

KIDDE MANUFACTURING CO., INC. • BLOOMFIELD, NEW JERSEY

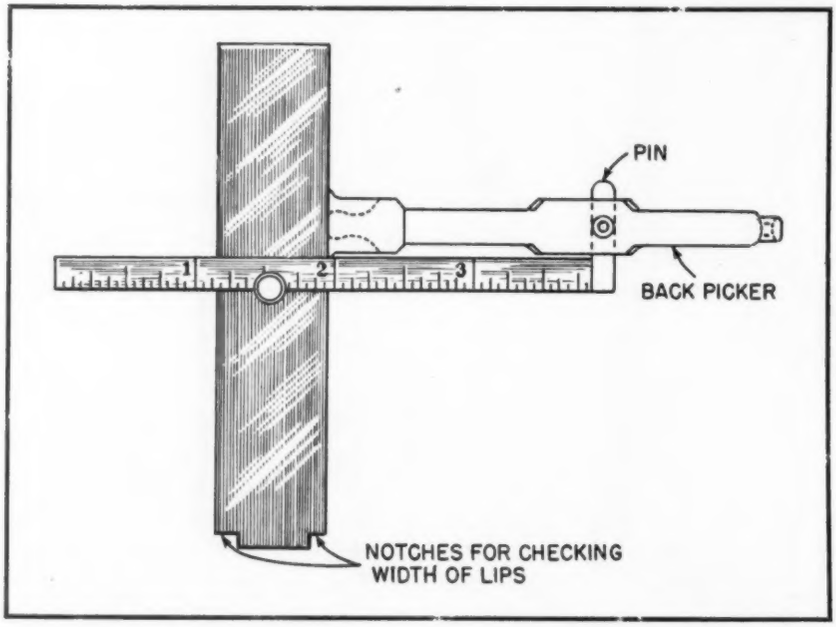


Fig. 3. A depth gauge modified to serve as a back picker gauge.

ruined the pick which means—try again.

Shown in Fig. 3, is a drawing of a depth gauge with a pin soldered to one end of the rule. Make the pin the same size as the picker pivot pin. Place the old picker on the pin, set the rule for correct length, then grind the picker to fit the setting. The drawing shows the picker set for correct measurement.

The depth gauge shown has a four-inch scale, and it will be found best to attach the first pin for the picker on the end where the numeral 4 would be. This leaves the opposite end useful for making other measurements. Two notches filed in one end of the stock will serve to check the width of picker lips. This gauge can also be used to measure pickers for other Scott & Williams machines such as models B-3, B-5, and K machines.

The No. 46 depth gauge will not serve as many different purposes as the six-inch rule described here; however, a machine fixer who has both can readily take care of the bulk of measurement problems that arise from day to day.

AN EYE ON THE KNITTING MILLS

Archer Mills, Inc., Columbus, Ga., women's full-fashioned hosiery, has asked bids for the erection of an addition to be used for office service.

Knit Products Corp., Inc., (No. 2), organized in Belmont, N. C., several months ago, has work in progress on the establishment of a full-fashioned hosiery mill. The latest type of equipment will be installed and a large output developed.

Kandel Knitting Mills, Portland, Ore., outerwear, have awarded general contract for a one-story mill in Portland.

Jecar Hosiery Mills, Inc., New Orleans, La., men's seamless hosiery, has completed an expansion program at the mill and has installed a new dye and finish department. Increased output is planned, including an additional line of socks for men and boys.

Havenshire Knitwear Co., Inc., has been chartered in New York, N. Y., with a capital of $100,000, to manufacture a line of knit outerwear.

Norwich (N. Y.) Knitting Co., underwear, union suits, etc., has completed the construction of a finishing mill at Clayton, N. C., where a branch plant is operated. Maximum capacity will be developed.

The Rotary Club is at the head of a project to construct and operate a one-story knitting mill in Yanceyville, N. C., for the manufacture of hosiery. The cost is reported to be aproximately $30,000, exclusive of equipment.

McGaugh Hosiery & Mfg. Co., Dallas, Tex., full-fashioned hosiery, has plans under way for three one-story additions to the mill in New Braunfels, Tex., and will carry out a large increased capacity.

Wilkes Hosiery Mills Co., North Wilkesboro, N. C., recently honored its employees who have totaled 1,380,898 man-hours without a lost-time accident. The Certificate Award for Safety Record was received from the American Mutual Liability Insurance Co.

Mid-West Processors, Libertyville, Ill., a yarn dyeing concern, has announced its affiliation with Hans C. Bick, Inc., Reading, Pa., a hosiery finishing company. Bick will act as agency for Mid-West in the east, and Mid-West will act as agent for a division that Bick is opening at Libertyville.

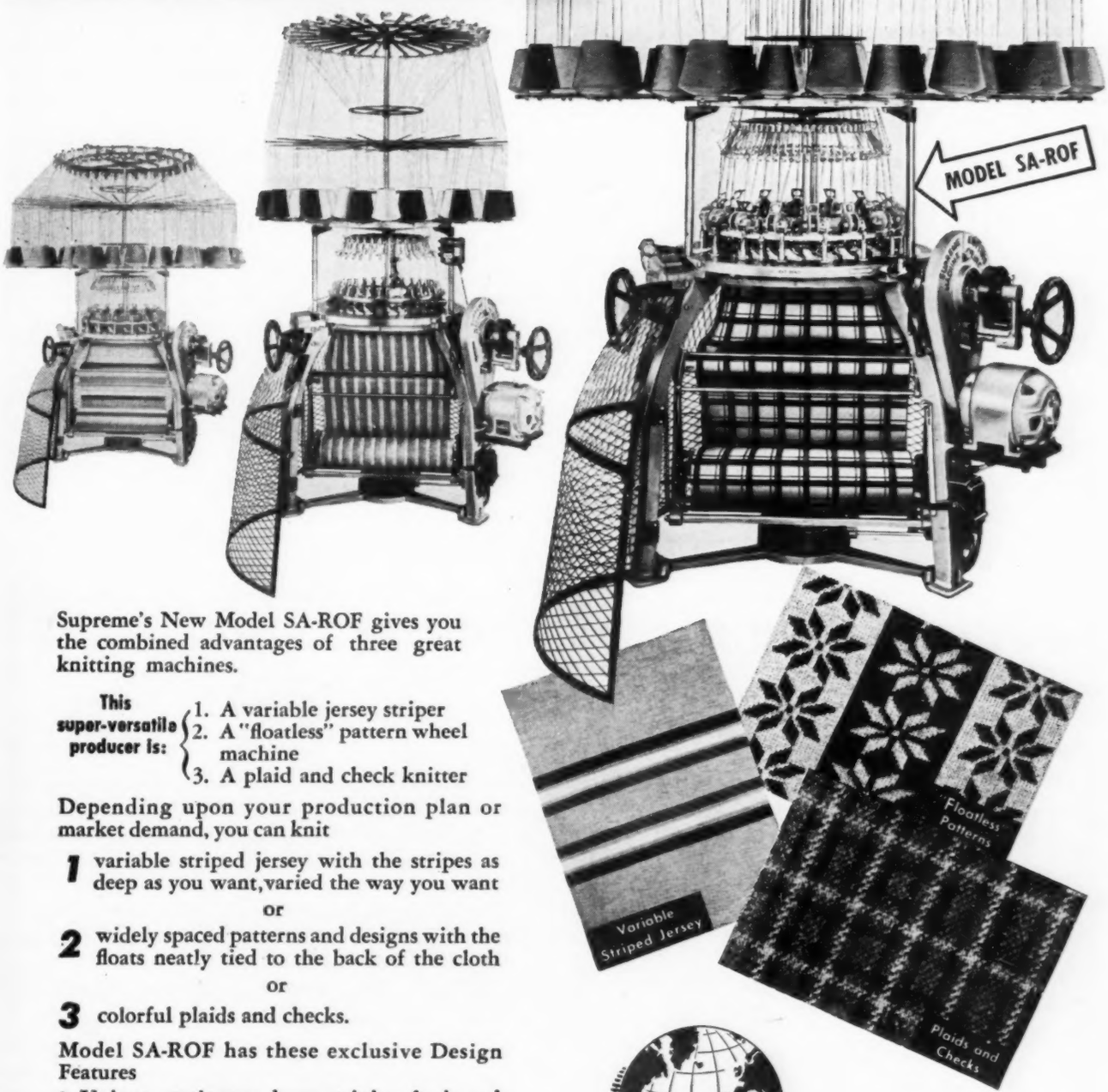
The Reading (Pa.) Full-Fashioned Hosiery Mills, Inc., has filed a certificate with the state department at Harrisburg to dissolve.

Klear Knit, Inc., Independence, Va., recently organized, has plans for the construction of a one-story mill for the manufacture of outerwear. F. A. Preddy is president.

Winchester (Va.) Knitting Mill has plans maturing for a one-story addition for the output of men's underwear.

John H. Guenther, former official of Reading Maid Hosiery Mills, Inc., now dissolved, will start a new mill in West Lawn, Pa.

1 SUPREME MACHINE GIVES YOU THE KNITTING ABILITY OF 3



Supreme's New Model SA-ROF gives you the combined advantages of three great knitting machines.

This super-versatile producer is:

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2. A "floatless" pattern wheel machine
3. A plaid and check knitter

Depending upon your production plan or market demand, you can knit

1 variable striped jersey with the stripes as deep as you want, varied the way you want

or

2 widely spaced patterns and designs with the floats neatly tied to the back of the cloth

or

3 colorful plaids and checks.

Model SA-ROF has these exclusive Design Features

- Unique, stationary drum striping feeds and stationary yarn stand.
- Revolving cylinder and take-up.
- 24" diameter, 32 feeds. A minimum of 16 feeds knitting four colors.
- Choice of stripes, patterns or plaids.
- Quiet, concealed camming.

If you want to know more about the unusual fabrics and wider production range possible with the SA-ROF, write for your copy of our new booklet, "Variable Stripes and Plaids Pay."

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SK-112

New Labor Law Approach Favored by Some Knitwear Manufacturers

Some of those in the knitting trades who are closely attached to personnel matters, such as wages, hours, hiring-and-firing, etc., say they deplore the present condition of federal and state laws that presumably were intended to regulate employee relationships. As an example they point to the way the government handled the April strike of coal miners, in effect by "passing the buck" to the federal judiciary, and having the strikers and their leader fined for contempt of a federal court order that directed them to return to work.

It is cited that if such a condition of defiance of federal laws occurred in the knitwear industry, the underwear, hosiery and outerwear labor executives sooner would deal with the emergency on their own initiative, and fight the issues out to the end, than to have our federal courts saddled with a responsibility for labor relations which, the knitwear people claim, should never be done. In short, it is claimed, for Congress to "delegate" authority to the federal judiciary in this way—by adopting labor laws full of loopholes that favor labor leaders—simply places the onus of enforcement on individual federal judges, whose life or limb may become endangered by the decisions they make.

Industrial personnel managers in this field contend they are fully capable of handling labor disputes that affect them and they believe it is to the interest of both the labor officials and the industry representatives, in the long run, to avoid such public exhibitions as the mine workers encountered recently. The thought is expressed that such a set-up of application of federal laws is repugnant to our Constitution, and is unfair to the federal courts and the individual judges who are called on to interpret loosely-drawn enactments of Congress, simply to relieve members of Congress from personal accounting for their official actions. Instead, it is asserted, acts of Congress should be expressed clearly and their enforcement should be the duty of the executive branch of our government, not the judiciary.

Hosiery Retail Market Is Holding Its Own

As far as allotments of stockings are concerned, distribution on a percentage basis of branded goods

Summer's sun, sand and moisture...

hold no terrors for lovely hosiery finished with *DuraBeau*... because *DuraBeau* not only gives extra sheerness and dull, soft, delicate beauty, but due to the fact that it offers extra resistance to runs, snags and spots, it gives *"miles more wear"*.

DuraBeau truly imparts to hosiery the "film of beauty... plus protection".

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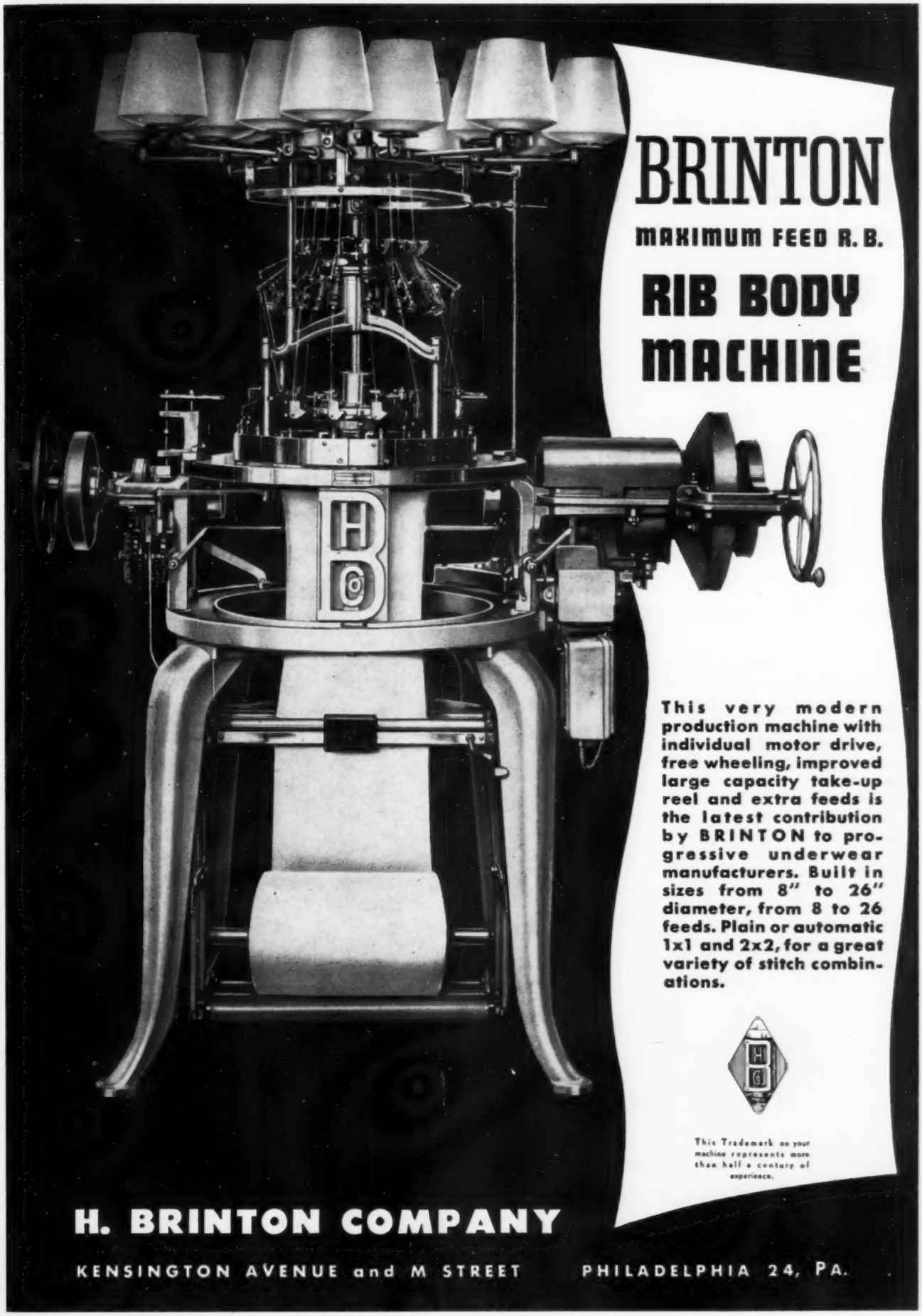
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MAXIMUM FEED R. B.
RIB BODY
MACHINE
This very modern production machine with individual motor drive, free wheeling, improved large capacity take-up reel and extra feeds is the latest contribution by BRINTON to progressive underwear manufacturers. Built in sizes from 8" to 26" diameter, from 8 to 26 feeds. Plain or automatic 1x1 and 2x2, for a great variety of stitch combinations.
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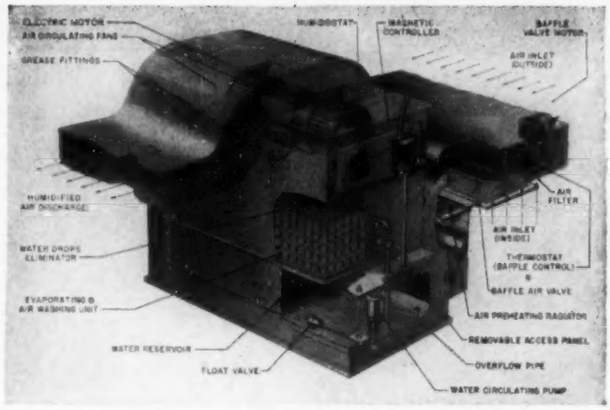

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more economical to use . . .

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Made of Durene multi-ply mercerized combed cotton yarn
4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT ...more absorbent
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is now the exception, it is stated by responsible sources. It is added that this does not mean that a new phase of distribution of women's hosiery has set in, because in a general way the hosiery markets are holding their own, especially as to full-fashioned constructions.

It is said to be true that in some instances, prices have had to be reduced for full-fashioned stockings. On the other hand, observers claim, this will be found to apply mostly to 15-denier goods. It previously was related that the 15-denier item does not pretend to give the wearing use of the 30-denier, but consumer demand previously favored 15 - denier goods, so that the supply of this type was greater.

Purchasing of hosiery by the average retail store has fallen off. Some manufacturers view this as disquieting, while other producers contend a good many retailers are "taking it easy" for summer-time stocks, mainly because they think there is a chance prices may come down meanwhile. Hosiery manufacturers doubt that prices can come down. With wages increasing and no appreciable decrease in prices of other ordianry commodities, it is explained, it appears now as if a general hosiery price decline will not soon be seen.

Pension Plans Face Serious Setback

A number of long-established knitwear concerns have had pension and retirement plans for many years. Originally these plans were pioneered by large industrial corporations, with the individual workers contributing weekly or monthly to a fund from which the pension payments were distributed.

More recently, organized labor has stepped into the picture. Lately, the National Labor Relations Board released a decision that requires employers to bargain with the union agents on the question of pensions. It is figured this will lead many employers to go slow on adoption or amendments of company-sponsored retirement-benefit plans.

That is, under this ruling, any employer may be charged by a union with operating under a so-called "unfair practice" as to pension arrangements and the Board may order the existing plan to be discontinued. Therefore, all the time and effort spent by management in setting up the plan would be wasted, and when and if the employees contributed toward it, from their earnings, their contribution would be jeopardized.

In the knitwear field, some of the old-timers contend that after all, even where the employees

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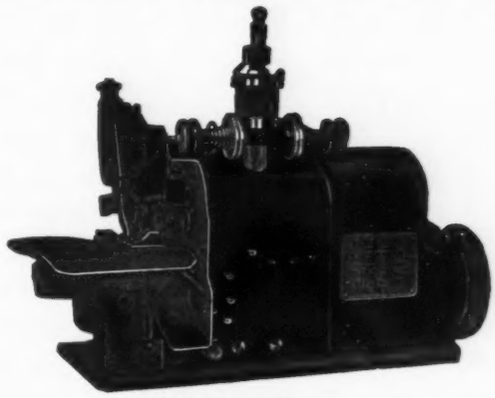

QUALITY RESULTS
HIGH PRODUCTION
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For Best Results Use a Machine Suitably Arranged for Your Work

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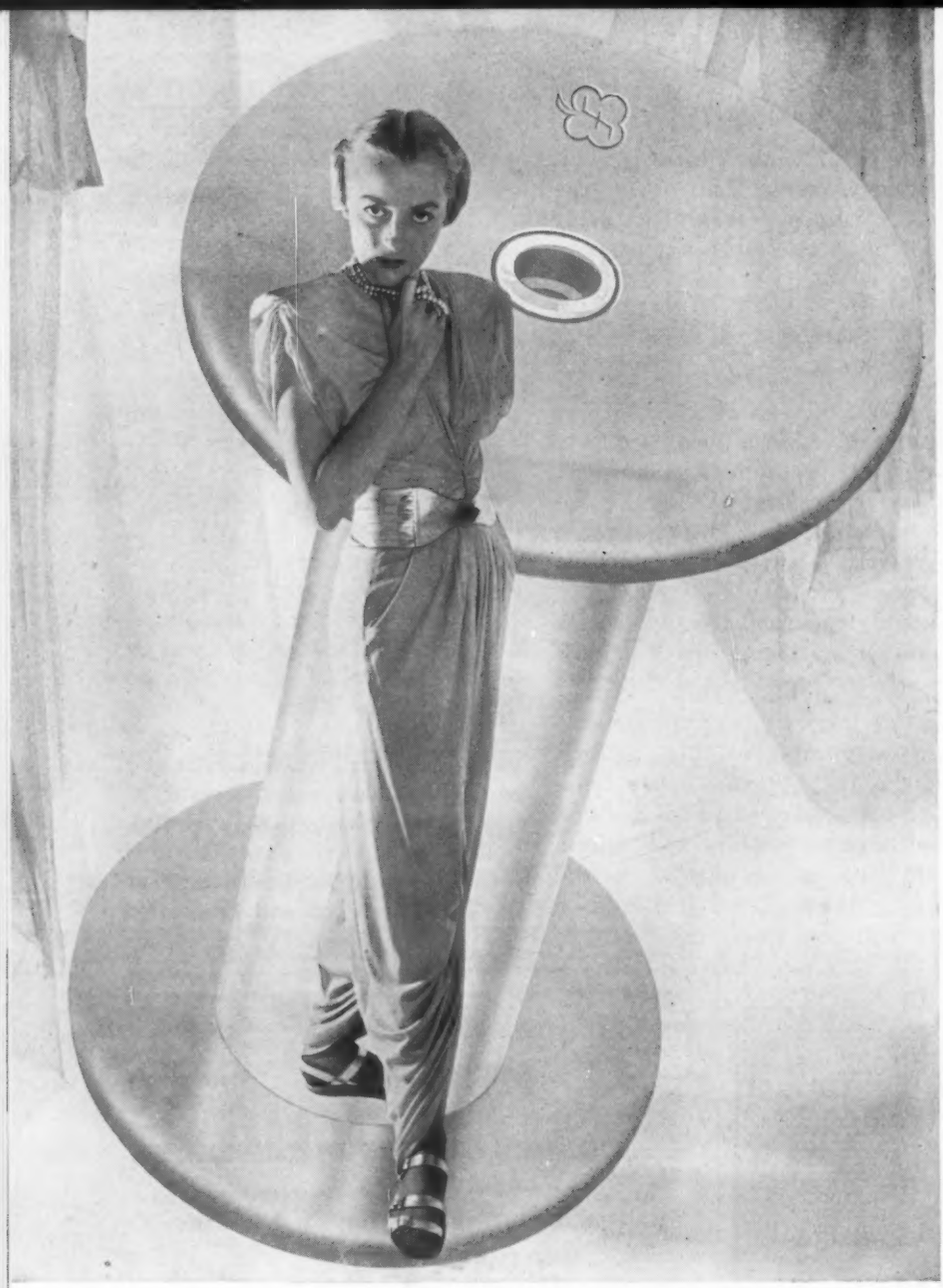

Back of every great development in Textiles stands the Bobbin.

Have you ever thought of the part the Bobbin plays in producing the tremendous yardages of fine fabrics required by fashion-conscious America? And the demands made upon the Bobbin as these production schedules increase?

To meet these problems, Cloverleaf-Freeland develops a Bobbin so amazingly precise that it remains perfectly balanced under any conditions; runs smoothly with all tensions.

This is one example of the forward-thinking done at Cloverleaf-Freeland—thinking that builds great Bobbins.

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Honesdale, Pa. Hazleton, Pa.
Southern Rep.: James T. Gordon, 1013 Woodside Building, Greenville, S. C.
New England Rep.: R. F. Makepeace, 9 Rhode Island Ave., Warwick Neck, R. I.

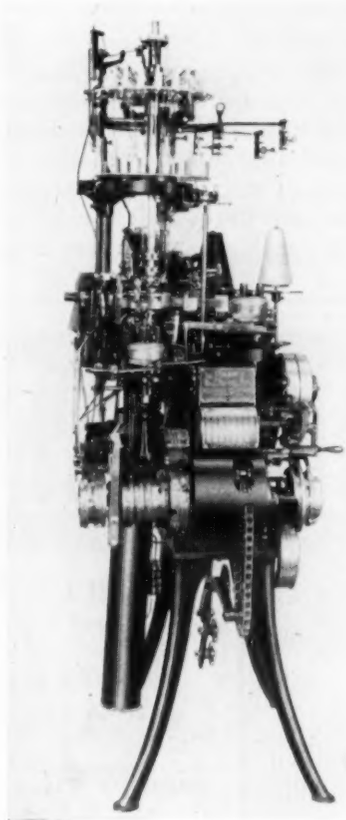
CLOVERLEAF-Freeland BOBBINS

make regular contributions out of their pay to pension plans, in large part the payment of pensions amounts to a largesse by the employers and the regulations ought to remain under direct control of the latter, who also are responsible for administration expenses.

Machine Knits Boys' Fancy Socks

The Hemphill Company, Pawtucket, R. I., is marketing a new machine for producing boys' socks. The new unit will manufacture color and patterns in perfect proportion and in the complete ranges now offered by the Banner wrap-reverse machine used for men's hosiery.

The new machine is a 3¼" cylinder, 120 needle, 24 gauge unit. With a simple preparatory step, the unit can be equipped to produce knee length hosiery for both boys and girls. The rate of production per 8-hour day is approximately 6½-7 dozen for an 8½ size.



Banner wraps in argyles, checks, overplaids, diagonal wrap or plain stripes, fancy and three-color clocks in a selection of eighteen brilliant wrap colors, may be produced on this machine.

In knitting fine hosiery—
every detail demands attention

Consider Toe Construction

OF THE VARIOUS FACTORS that contribute to both sales and customer satisfaction in hosiery, toe construction is one of the most important. For both wear and comfort depend to a great extent upon how well this detail is "engineered" and knitted.

Torrington Needles, with their precision-made uniformity of temper, finish and over-all dimensions, will help you maintain greater control over the quality of this important detail—as well as in all the other important details that sell hosiery and keep customers coming back for *your brand* in a competitive market.

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ESTABLISHED 1866

Branches: New York • Philadelphia • Chicago • Greensboro, N. C. Boston • St. Louis • Toronto, Canada. *Pacific Coast Representative:* E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, California
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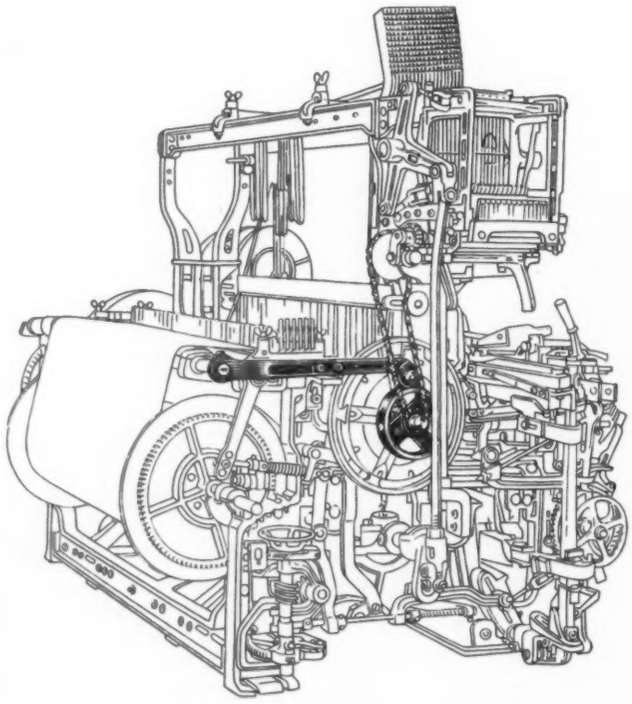
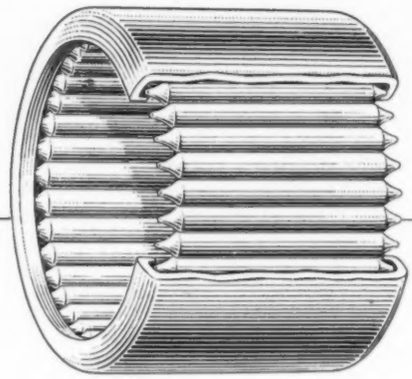
TORRINGTON

SPRING BEARD NEEDLES • SINKERS • DIVIDERS • SPLIT DIVIDERS



Torrington Needle Bearings on Draper High-Speed Looms

Draper Model XD High-Speed Rayon Loom shows location of Whip Roll Cam Follower where use of a Torrington Needle Bearing has served to reduce friction, extend service life, and minimize maintenance attention in this important application.



Ten-year record of Needle Bearings on whip roll cam followers shows improved service life with reduced maintenance attention.

On both Model XD High-Speed Rayon Loom and Model XP High-Speed Loom for weaving heavy cotton fabrics, Torrington Needle Bearings used in the whip roll cam follower have established an enviable service record since they were first adopted for this application nearly ten years ago.

In these looms, which normally operate at speeds up to 192 picks per minute, cam rollers are constantly operating at speeds of 500 to 600 rpm. Yet, periodic attention to insure correct lubrication is the only service or maintenance attention necessary and the former need for periodic replacement of worn cam follower parts has been eliminated.

The long service life, ease of anti-friction operation which contributes to lower power requirements, and freedom from maintenance are typical of the advantages to be secured through the use of Torrington Needle Bearings in many textile machinery applications. Our engineering department will gladly work with you in adopting these modern anti-friction bearings to your equipment.

THE TORRINGTON COMPANY

Torrington, Conn. • *South Bend 21, Ind.*

District Offices and Distributors in Principal Cities

TORRINGTON *NEEDLE* **BEARINGS**

NEEDLE · SPHERICAL ROLLER · STRAIGHT ROLLER · TAPERED ROLLER · BALL · NEEDLE ROLLERS

Cotton Cost Crucial Up To Mid-Summer

Total supply of cotton remaining available for spinning standard types of knitting yarns is lowest in 25 years. The export program is large and shipments to Europe, Japan and China are estimated as being likely to total 2,500,000 bales on the basis of a full crop-year.

In this country, the cotton-consumption cycle moved downward for 11 months and an upturn has now begun. The price for Egyptian has doubled since the first of the year. The Brazilian cotton crop is the smallest in 10 years. Cotton parity in the U. S. is again rising this spring. Our own military requirements will step up the consumption of cotton materially after mid-year. Cotton interests and many of the spinners expect the July option to reach or exceed forty cents (40c). They also expect an easing in their cotton costs after the next crop commences to move to the markets, but this is five months hence.

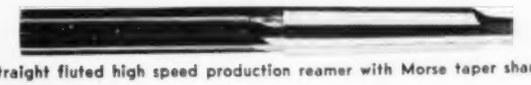
It can be admitted, observers say, that high cotton and yarn prices are helping synthetics to gain more ground here and abroad, but with a few exceptions those most closely associated with the cotton end of the industry are not too much worried over such competition. They stress that despite high prices and some loss of volume along certain lines through diversion of business to rayon, etc., cotton fibers, after all, furnish most of the answers required in a raw material that gives widest application to manufacturing needs in knitwear and other textile apparel fields.

Based on this foundation, it is indicated, the cotton people and their affiliates in the spinning and weaving lines can be expected in their promotional efforts to place growing emphasis on the inherent characteristics of the various types of raw cotton.

Knitter Hints (No. 24)

Tightening Chain Buttons

If the screw driver should slip, there is no danger of injury. When tightening chain buttons, a protective piece of metal should always be held to prevent painful injuries. This man is protecting his hand properly.

DENCO
Finest machine tools for shops, mills and manufacturing plants. General machine tools. Special tools for the manufacturer.
Quick service resharpening your tools.

Straight fluted high speed production reamer with Morse taper shank.
Dennison
Write for catalog and price list.
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1300 North 22nd St. — Box 2251 — Phone 1376L — Hickory, N. C.

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SPECIALIZING IN TEXTILES FOR OVER ONE-THIRD OF A CENTURY
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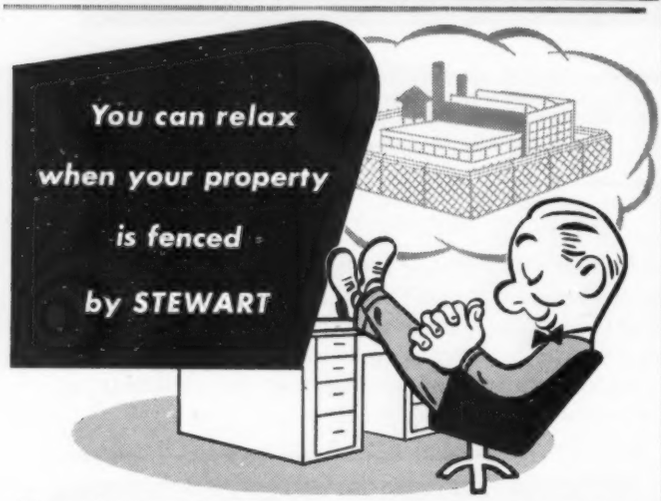

No need to lose any sleep over vandals molesting your industrial property when it's surrounded by a Stewart Chain Link Wire Fence. The All Beam construction of the Stewart fence framework makes it the heaviest and strongest chain link wire fence manufactured. You may be sure a Stewart fence will give you the utmost in protection, and many extra years of dependable, low cost service. Catalog No. 83 containing complete details and specifications on all styles of Stewart Chain Link Wire and Iron Picket Fences will be sent on request.

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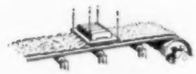
In Chutes, Ducts, Pipes Over Belt Conveyors



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Ask anyone in the weave room this question

"What's the first requirement of a Loom Lubricant?" . . . They'll answer, "Stay-ability." That "built-in" quality which keeps NON-FLUID OIL in bearings and off goods.

Super-adhesive NON-FLUID OIL stays where applied, increasing production and out-lasting oil 3 to 5 times. But remember, the woods are full of imitations of NON-FLUID OIL. Write for bulletin T20TI and free testing sample of NON-FLUID OIL.

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The difference in the style between Travelers may be very slight, but the results obtained by changing could result in longer life, improved work and greater savings.

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The 15th SOUTHERN TEXTILE EXPOSITION

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More than 200 manufacturers of textile machinery, equipment, accessories, building, operating and office supplies, primary and fabricating materials, and parts, will have displays. This will mark the first meeting in Textile Hall of mill men and machinery and equipment manufacturers since 1941. There will be shown not only standard products, but some new ones developed in the last seven years.

Through our Reservations Committee all who attend the Exposition may obtain comfortable quarters. Address letters to Textile Hall Corporation, Greenville, S. C.

NOTE: This Exposition is exclusively for the textile industry, and is open only to those holding admission tickets. Because of limited aisle areas, children under sixteen years of age cannot be admitted at any time.

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MEESE, INCORPORATED

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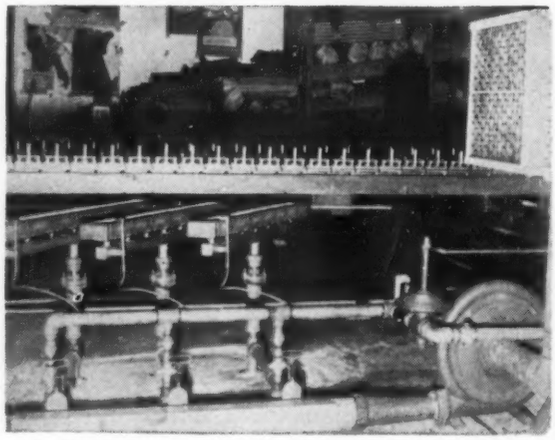

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Red-Ray Radiant Gas Burners installed under open tenter frame. Burners may be turned at angle for narrow goods.

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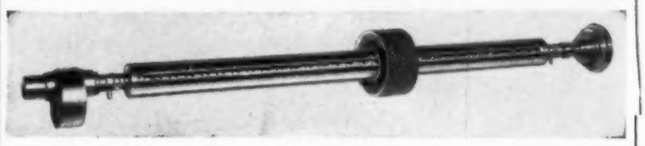
Grinder Hint . . . .

Be sure to use the right dog and dogholder. ROY dogholders are marked plainly and should be used in either our new machines or any traverse grinder repaired by us. All makes of dogs and holders can be obtained immediately from Worcester or any ROY representative. Special dogs and holders for other equipment can be made to sample submitted.



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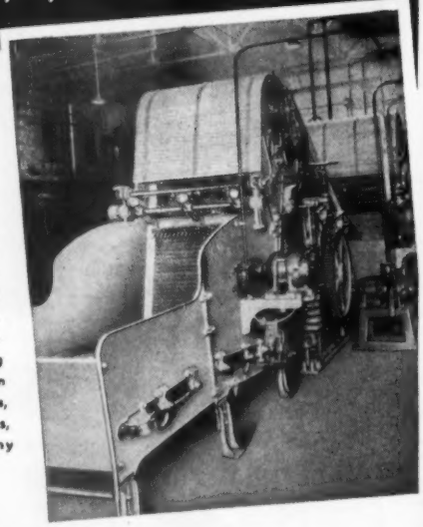

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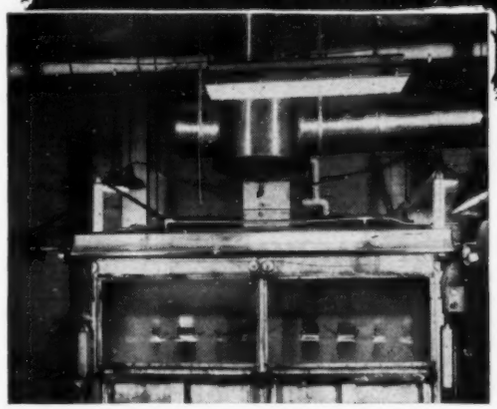

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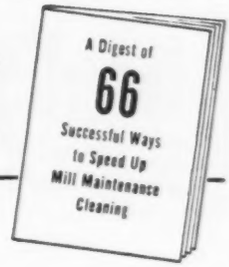
John.

Those analyses which the Penick & Ford Textile Laboratory in Atlanta made for us certainly helped solve our warp sizing problems.

Jim

66 ways to cut your Cleaning Costs



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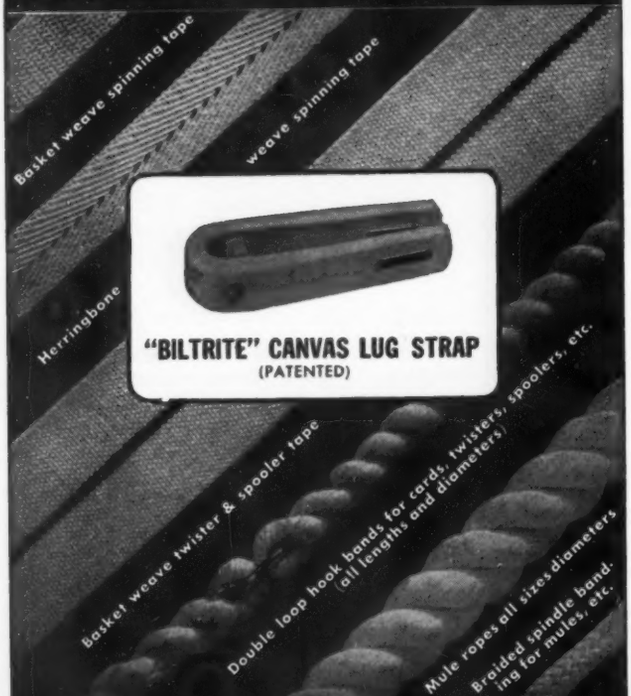
FOR SPINNING, TWISTING, SPOOLING, WEAVING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weave spinning tape
"BILTRITE" CANVAS LUG STRAP
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Herringbone
Basket weave twister & spooler tape
Double loop hook bands for cards, twisters, spoolers, etc. (all lengths and diameters)
Mule ropes all sizes diameters
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LOOPERS
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Manufacturers : POUGHKEEPSIE, N. Y.

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MODEL A.V.T.
20,000 R.P.M.

This is NOT a grinder, but the original pneumatic tool especially designed for the SPECIFIC Purpose of

REMOVING LINT and FLY

from the top rolls and other parts of the drafting elements on

SPINNING FRAMES also ROVING FRAMES

Spindle design permits using PICK (which gathers the fly and lint), 3/16" diameter by 5" long when used on Spinning Frames and 3/16" diameter by 7" long when used on Roving Frames. Exhaust air directed back of roll picker to prevent fly and lint from being blown into yarn when spinning—PATENT APPLIED FOR. Special grease-sealed bearings. No lubrication required. Weight only 14 oz.

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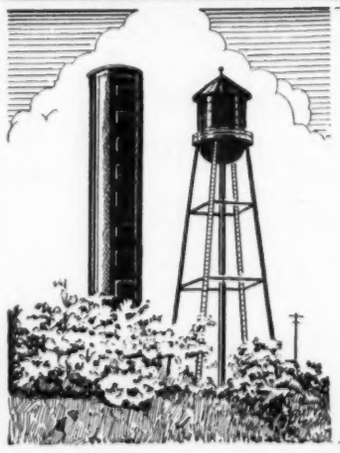

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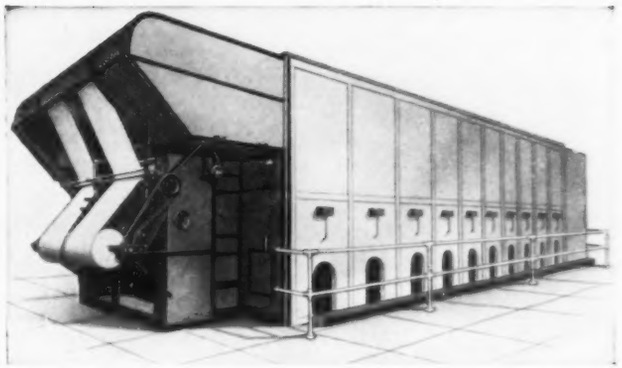

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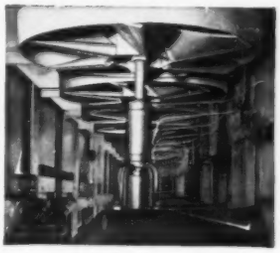

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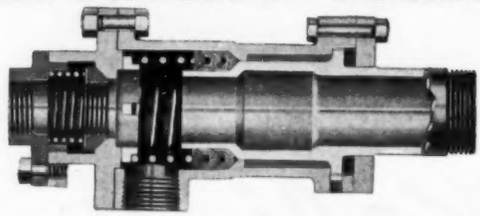

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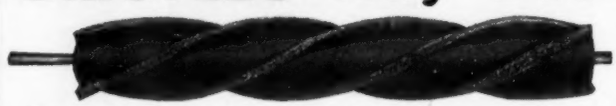

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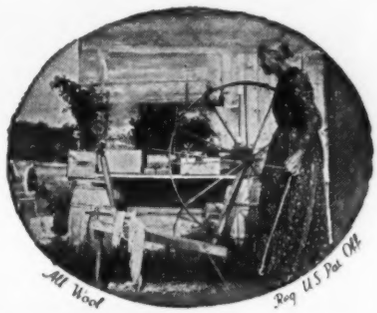

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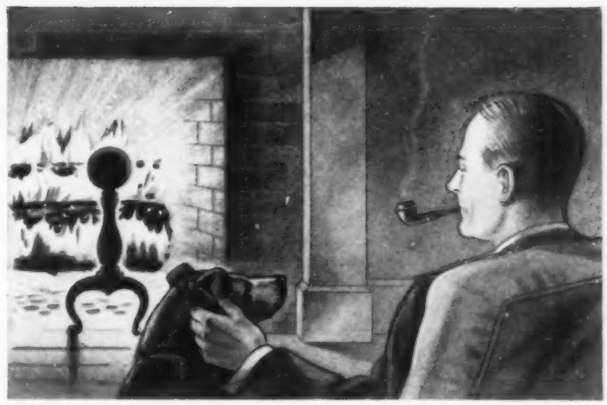

A word about BACKLOGS

You probably have a backlog of orders — so have we. While the above picture is hardly a June scene, let it remind you that months pass fast. If you plan to install new rings months hence, a good time to order is now.

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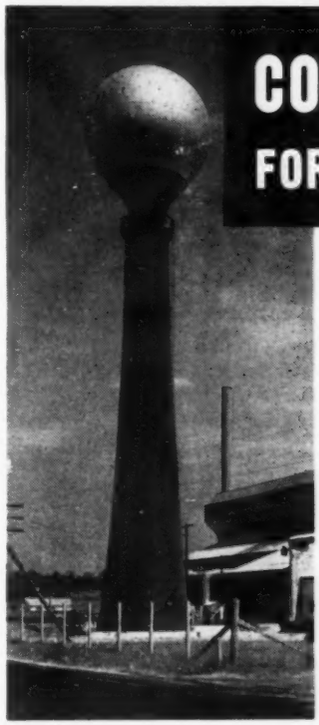

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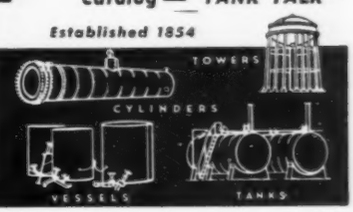

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2. More and better production in spooling and rewinding operations. The yarn comes off better from a tapered bobbin.

3. Finger tip seating. Spindle tip suspension and tough but resilient construction of bobbins permit positive seating with finger tip pressure. Thus the bobbins come off easily.

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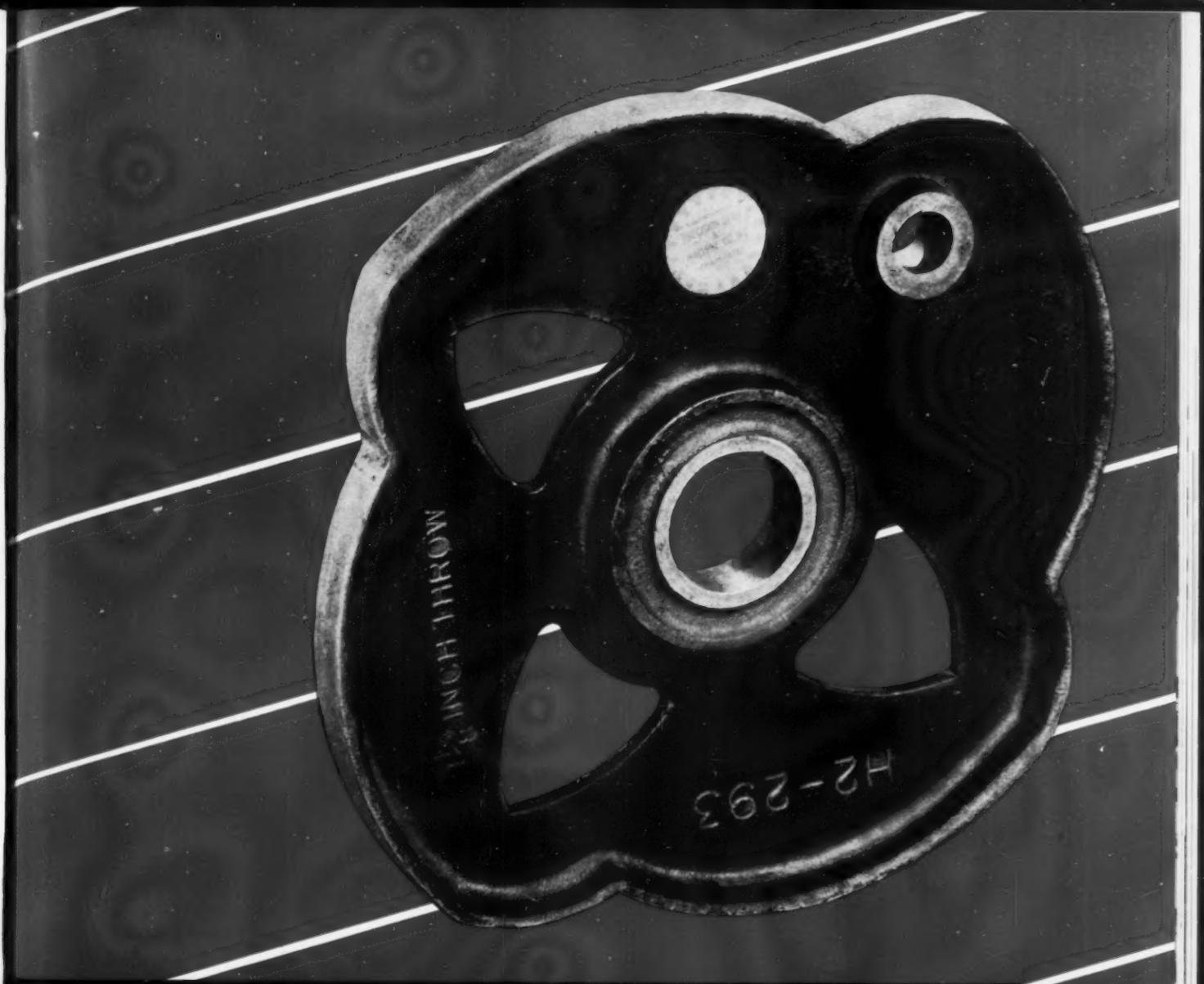

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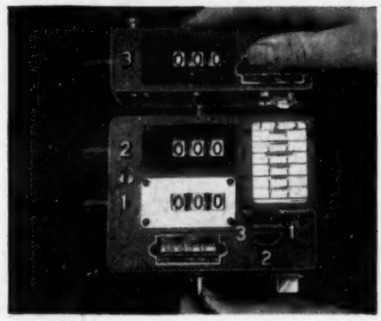
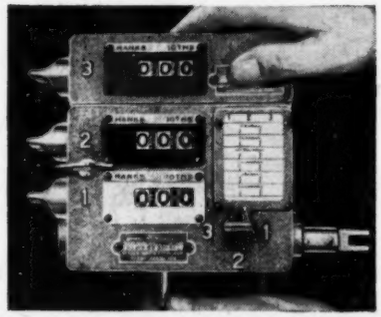


. . . in Hank Counters:

Veeder-Root makes all types of Hank Counters, including the 2-Shift Counters which have the same Vantage-Point of *quick convertibility* as the 2-3 Pick Counters listed above.



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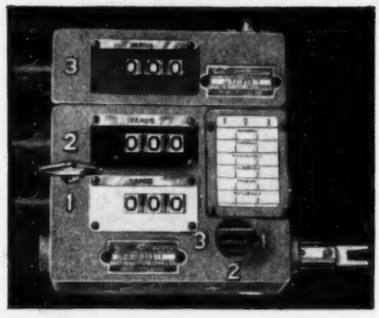

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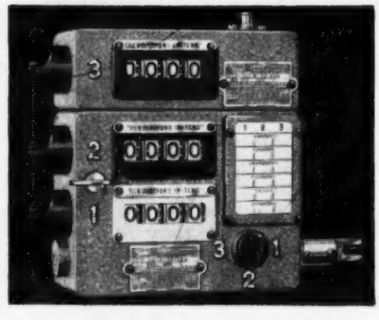

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